



#### Features:

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- · Class 2 power unit
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- · Suitable for LED lighting and moving sign applications
- · Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 5 years warranty (Note.10)















HLG-40H-12 A Blank: IP67 rated. Cable for I/O connection.

A: IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.

B: IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance

D (option): IP67 rated. Timer dimming function, contact MEAN WELL for details.

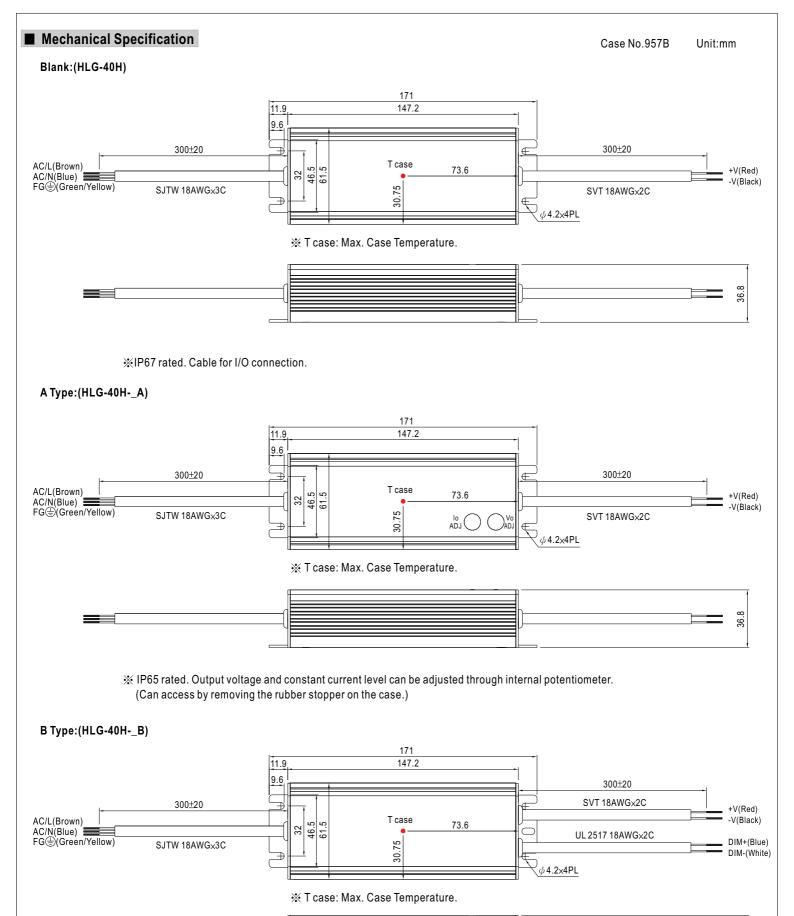
#### **SPECIFICATION**

SPECIFICATION WAS IN A DIVERSITY OF THE ANALYSIS OF THE ANALYS											
MODEL		HLG-40H-12	HLG-40H-15	HLG-40H-20	HLG-40H-24	HLG-40H-30	HLG-40H-36	HLG-40H-42	HLG-40H-48	HLG-40H-54	
	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V	
	CONSTANT CURRENT REGION Note.4	7.2 ~12V	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V	
	RATED CURRENT	3.33A	2.67A	2A	1.67A	1.34A	1.12A	0.96A	0.84A	0.75A	
	RATED POWER	39.96W	40.05W	40W	40.08W	40.2W	40.32W	40.32W	40.32W	40.5W	
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	300mVp-p	300mVp-p	
	VOLTAGE ADJ. RANGE Note.6	10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	40 ~ 46V	44 ~ 53V	49 ~ 58V	
OUTPUT		Can be adjust	ed by internal p	potentiometer	or through out	ut cable					
	CURRENT ADJ. RANGE	2 ~ 3.33A	1.6 ~ 2.67A	1.2 ~ 2A	1 ~ 1.67A	0.8 ~ 1.34A	0.67 ~ 1.12A	0.58 ~ 0.96A	0.5 ~ 0.84A	0.45 ~ 0.75A	
	VOLTAGE TOLERANCE Note.3		±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
								_0.070	20.070	_0.070	
	HOLD UP TIME (Typ.)	1500ms, 80ms / 115VAC at full load 1000ms, 80ms / 230VAC at full load 16ms/230VAC 16ms/115VAC at full load									
	FREQUENCY RANGE										
	POWER FACTOR (Typ.)			· · · · · ·		, ,	1			Τ'	
INPUT	EFFICIENCY (Typ.)	86.5%	86.5%	88%	88%	88.5%	88.5%	88.5%	89.5%	89.5%	
	AC CURRENT (Typ.)	0.43A / 115VA		/ 230VAC	0.23A / 277VA	VC					
	INRUSH CURRENT(Typ.)		70A/230VAC								
	LEAKAGE CURRENT	<0.75mA / 277VAC									
	OVER CURRENT Note.4	95 ~ 108%									
	OVER CORRER NOTE:	Protection typ	e : Constant c	urrent limiting,	recovers autor	natically after fa	ault condition is	s removed			
	SHORT CIRCUIT	Hiccup mode,	recovers auto	matically after	fault condition	is removed					
PROTECTION		15 ~ 21V	18 ~ 24V	23 ~ 30V	28 ~ 35V	35 ~ 43V	41 ~ 49V	48 ~ 58V	54 ~ 63V	59 ~ 68V	
	OVER VOLTAGE	Protection typ	e : Shut down	o/p voltage, re	-power on to re	cover					
		85℃ ±10℃ (RTH2)									
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover									
	WORKING TEMP.	-40 ~ +70°C (	Refer to "Derat	ting Curve")							
	WORKING HUMIDITY	`	non-condensir								
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80°C,		<u>J</u>							
LittinoniiiLiti	TEMP. COEFFICIENT	±0.03%/°C (0									
	VIBRATION	,		lo period for	72min, oach al	ong X, Y, Z axe					
	TIDICATION					), EN61347-1,		Rindanandant	ID65 or ID67	1613/17 1	
	SAFETY STANDARDS Note.7					v EN60950-1,		, maepenaent,	, 11 00 01 11 07,	JU 1347-1,	
SAFETY &	WITHSTAND VOLTAGE						LIN00333-1				
EMC				G:1.88KVAC							
EIVIC	ISOLATION RESISTANCE		•	00M Ohms / 50			0.00				
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (≥60% load) ; EN61000-3-3									
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, EN55024, light industry level (surge 4KV), criteria A									
	MTBF	336.5Khrs mi		K-217F (25°C)							
OTHERS	DIMENSION	171*61.5*36.	, ,								
	PACKING		s/15.6Kg/0.8Cl								
NOTE	Ripple & noise are measure     Tolerance : includes set up     Constant current operation reconfirm special electrical in	all parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.  lipple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.  loierance: includes set up tolerance, line regulation and load regulation.  constant current operation region is within 60% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please econfirm special electrical requirements for some specific system design.  lerating may be needed under low input voltages. Please check the static characteristics for more details.    Vivine A only   Vivi									

- 6. Type A only.7. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.
- Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
   The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.

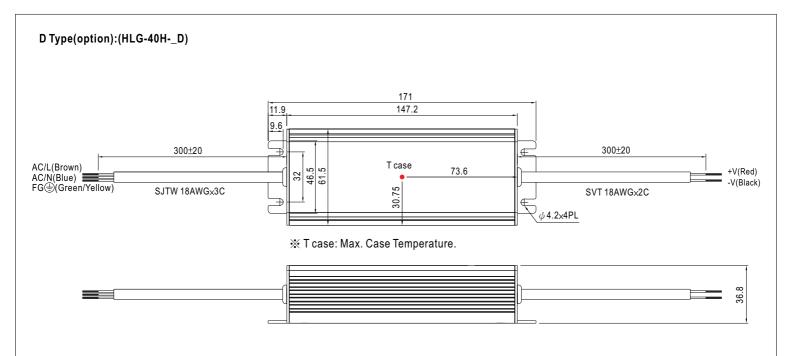
10. Refer to warranty statement.

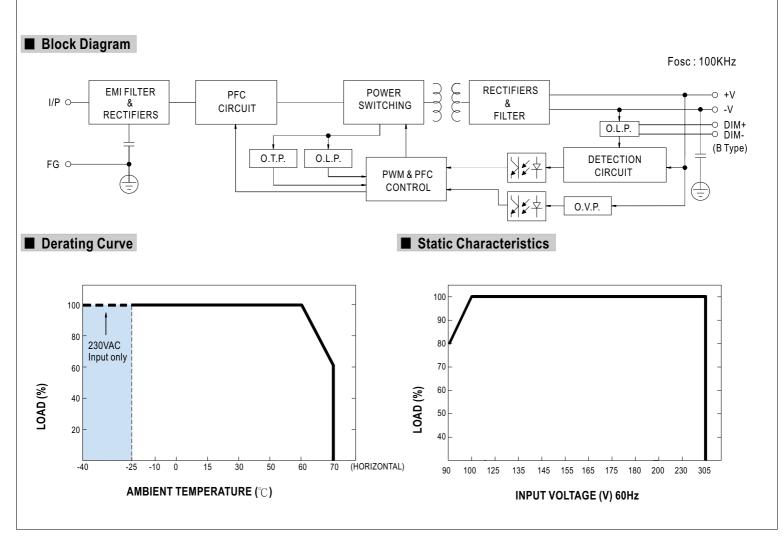




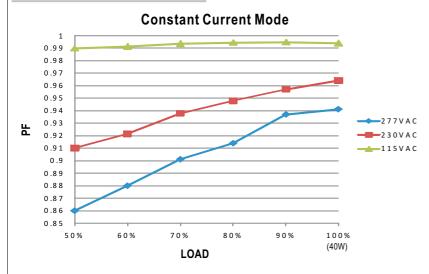
36.8





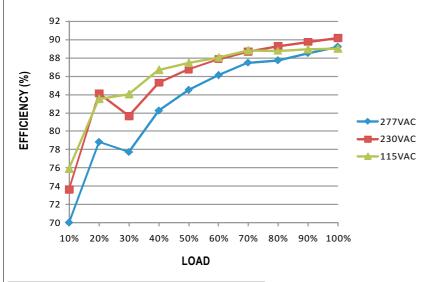






# **■** EFFICIENCY vs LOAD (48V Model)

HLG-40H series possess superior working efficiency that up to 89.5% can be reached in field applications.

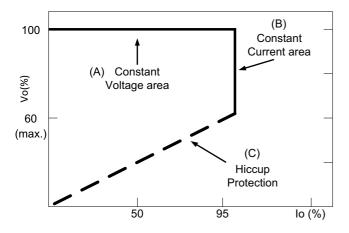


# ■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

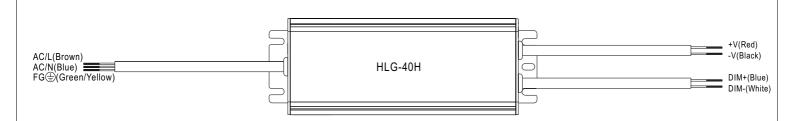
A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve





- Built-in 3 in 1 dimming function, IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 1 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-.
- X Please DO NOT connect "DIM-" to "-V".
- \* Reference resistance value for output current adjustment (Typical)

Resistance	Single driver	<b>10K</b> Ω	<b>20K</b> Ω	<b>30K</b> Ω	<b>40K</b> Ω	<b>50K</b> Ω	$60$ K $\Omega$	<b>70K</b> Ω	$80$ K $\Omega$	90K $\Omega$	<b>100K</b> Ω	OPEN
value	Multiple drivers (N=driver quantity for synchronized dimming operation)	10KΩ/N	20K Ω/N	30KΩ/N	40KΩ/N	50KΩ/N	60KΩ/N	70KΩ/N	80KΩ/N	90KΩ/N	100KΩ/N	
Percentage	e of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

#### 

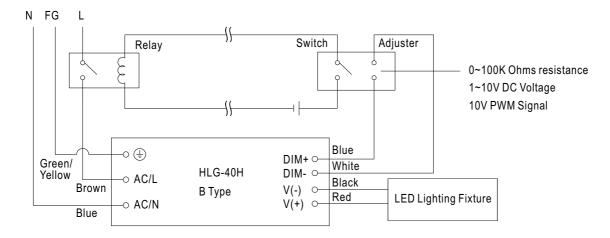
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

#### \* 10V PWM signal for output current adjustment (Typical): Frequency range: 100Hz ~ 3KHz

Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

- \*\*Using the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.
- XDirect connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture  $\mbox{ON/OFF}$ :



Using a switch and relay can turn ON/OFF the lighting fixture.

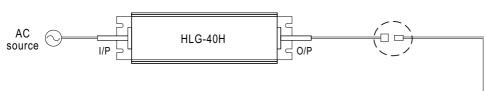
- 1. Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
- 2. The LED lighting fixture can be turned ON/OFF by the switch.



# **■** WATERPROOF CONNECTION

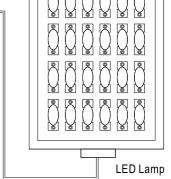
### Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-40H to operate in dry/wet/damp or outdoor environment.

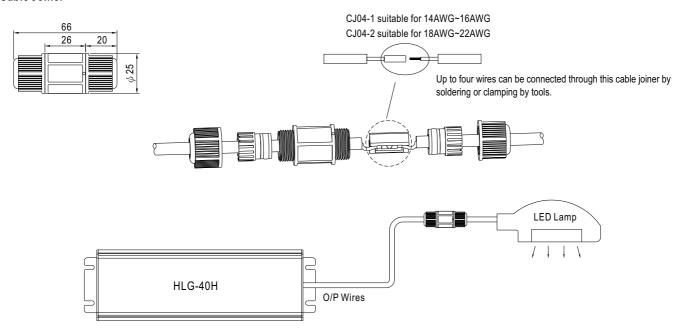


Size	Pin Configuration (Female)						
M12	000	000					
IVIIZ	4-PIN	5-PIN					
	5A/PIN	5A/PIN					
Order No.	M12-04	M12-05					
Suitable Current	10A max.	10A max.					

Size	Pin Configuration (Female)				
M15	00				
IVI 15	2-PIN				
	12A/PIN				
Order No.	M15-02				
Suitable Current	12A max.				



### O Cable Joiner



 $\times$ CJ04 cable joiner can be purchased independently for user's own assembly. MEAN WELL order No. : CJ04-1, CJ04-2.





#### Features:

- Universal AC input / Full range (up to 305VAC)
- · Built-in active PFC function
- Protections: Short circuit / Over current / Over voltage / Over temperature
- · Cooling by free air convection
- · OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- · Class 2 power unit
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- Suitable for LED lighting and moving sign applications
- · Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 5 years warranty (Note.10)















HLG-60H-15 A Blank: IP67 rated. Cable for I/O connection.

A: IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.

B: IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.

D (option): IP67 rated. Timer dimming function, contact MEAN WELL for details.

#### **SPECIFICATION**

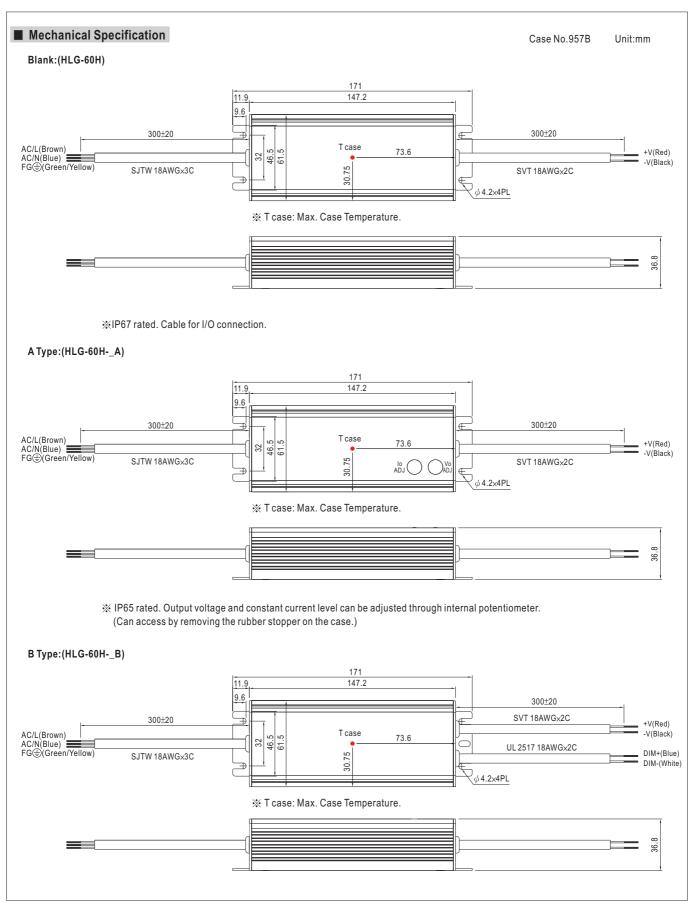
MODEL		HLG-60H-15	HLG-60H-20	HLG-60H-24	HLG-60H-30	HLG-60H-36	HLG-60H-42	HLG-60H-48	HLG-60H-54					
	DC VOLTAGE	15V	20V	24V	30V	36V	42V	48V	54V					
	CONSTANT CURRENT REGION Note.4	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V					
	RATED CURRENT	4A	3A	2.5A	2A	1.7A	1.45A	1.3A	1.15A					
	RATED POWER	60W	60W	60W	60W	61.2W	60.9W	62.4W	62.1W					
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	300mVp-p	300mVp-p	300mVp-p					
	VOLTAGE ADJ. RANGE Note.6	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	40 ~ 46V	44 ~ 53V	49 ~ 58V					
OUTPUT		Can be adjusted	d by internal pote	entiometer or thre	ough output cable	9	·	'	-					
	CURRENT ADJ. RANGE	2.4 ~ 4A	1.8 ~ 3A	1.5 ~ 2.5A	1.2 ~ 2A	1 ~ 1.7A	0.87 ~ 1.45A	0.78 ~ 1.3A	0.69 ~ 1.15A					
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%					
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%					
	LOAD REGULATION	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%					
	SETUP, RISE TIME Note.8	1500ms, 80ms	115VAC at full le	oad 1000m	s, 80ms / 230VA	C at full load	1	'						
	HOLD UP TIME (Typ.)	16ms/230VAC												
	VOLTAGE RANGE Note.5	90 ~ 305VAC	~ 305VAC 127 ~ 431VDC											
	FREQUENCY RANGE	<b>SE</b> 47 ~ 63Hz												
	POWER FACTOR (Typ.)	PF>0.98/115VA	C, PF>0.95/230	VAC, PF>0.92/2	77VAC at full load	d (Please refer to	"Power Factor C	Characteristic" cu	ırve)					
NPUT	EFFICIENCY (Typ.)	87.5%	89%	89.5%	90%	90%	90%	90.5%	90.5%					
	AC CURRENT (Typ.)	0.64A / 115VAC												
	INRUSH CURRENT(Typ.) COLD START 70A/230VAC													
	LEAKAGE CURRENT	<0.75mA/277VAC												
		95 ~ 108%												
	OVER CURRENT Note.4	Protection type	: Constant curre	ent limiting, recov	ers automaticall	y after fault condi	tion is removed							
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed												
ROTECTION		18 ~ 24V	23 ~ 30V	28 ~ 35V	35 ~ 43V	41 ~ 49V	48 ~ 58V	54 ~ 63V	59 ~ 68V					
	OVER VOLTAGE	Protection type : Shut down o/p voltage, re-power on to recover												
		95°C±10°C (RTH2)												
	OVER TEMPERATURE	,	<u> </u>	voltage, re-power	er on to recover									
	WORKING TEMP.		efer to "Derating											
	WORKING HUMIDITY	20 ~ 95% RH n		,										
NVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10												
	TEMP. COEFFICIENT	±0.03%/°C (0 ~												
	VIBRATION	- (	- 7	period for 72mir	n. each along X, Y	7 axes								
		· · · · · ·	• • •	•		·	'-2-13 independ	ent IP65 or IP6	7 .161347-1					
	SAFETY STANDARDS Note.7	UL8750, CSA C22.2 No. 250.0-08 (except for 48V, 54V), EN61347-1, EN61347-2-13 independent, IP65 or IP67, J61347-1, J61347-2-13 approved; design refer to UL60950-1, TUV EN60950-1, EN60335-1												
AFETY &	WITHSTAND VOLTAGE			.88KVAC O/P		7, 2, 1, 2, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,	,							
MC	ISOLATION RESISTANCE				C / 25°C / 70% RI	4								
	EMC EMISSION	,			$(\geq 60\% \text{ load})$ ; E									
	EMC IMMUNITY		· · · · · · · · · · · · · · · · · · ·				(surge 4KV)	riteria A						
	MTBF	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, EN55024, light industry level (surge 4KV), criteria A  338K hrs min. MIL-HDBK-217F (25°C)												
THERS	DIMENSION	171*61.5*36.8mm (L*W*H)												
MILKO	PACKING		15.6Kg/0.8CUFT	-										
	All parameters NOT special	<u> </u>				-00 ( 1:								

#### NOTE

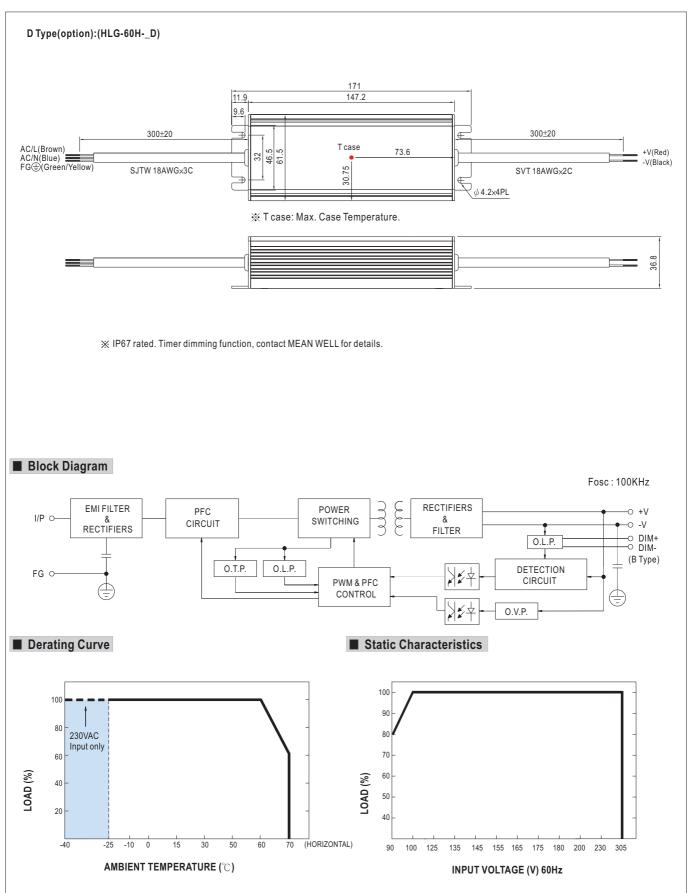
- All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
- 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation.
- 4. Constant current operation region is within 60% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design
- 5. Derating may be needed under low input voltages. Please check the static characteristics for more details.
- 6. Type A only
- 7. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.
- 8. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
- 9. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.

10. Refer to warranty statement.

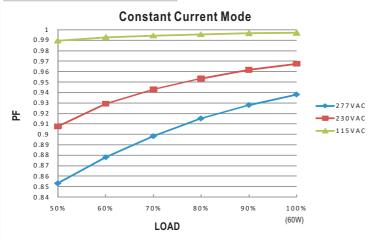






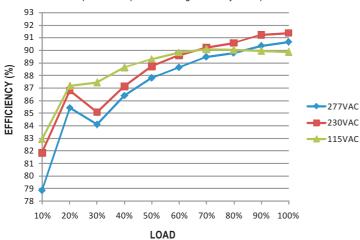






# **■** EFFICIENCY vs LOAD (48V Model)

HLG-60H series possess superior working efficiency that up to 90.5% can be reached in field applications.

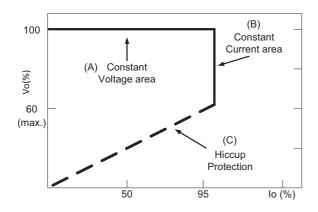


# **■** DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

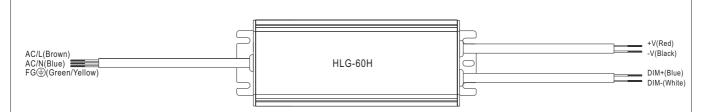
A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve





- ※ Please DO NOT connect "DIM-" to "-V".
- X Reference resistance value for output current adjustment (Typical)

Resistance	Single driver	<b>10K</b> Ω	<b>20K</b> Ω	<b>30K</b> Ω	<b>40K</b> Ω	<b>50K</b> Ω	<b>60Κ</b> Ω	<b>70K</b> Ω	<b>80K</b> Ω	90ΚΩ	<b>100K</b> Ω	OPEN
value	Multiple drivers (N=driver quantity for synchronized dimming operation)	10KΩ/N	20K Ω/N	30KΩ/N	40K Ω /N	50KΩ/N	60KΩ/N	<b>70K</b> Ω/ <b>N</b>	80K Ω/N	90KΩ/N	100KΩ/N	
Percentage	e of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

#### ※ 1 ~ 10V dimming function for output current adjustment (Typical)

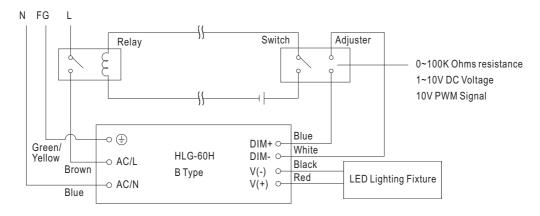
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

### \* 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz

Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

- XUsing the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.
- $\begin{tabular}{ll} \verb&\%Direct connecting to LEDs is suggested, but is not suitable for using additional drivers. \end{tabular}$

Dimming connection diagram for turning the lighting fixture ON/OFF:



Using a switch and relay can turn ON/OFF the lighting fixture.

- 1.Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
- 2. The LED lighting fixture can be turned ON/OFF by the switch.



# ■ WATERPROOF CONNECTION

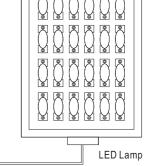
# Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-60H to operate in dry/wet/damp or outdoor environment.

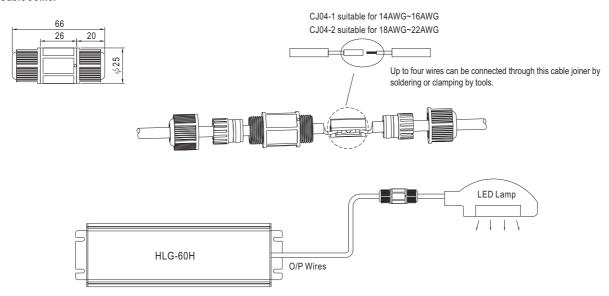


Size	Pin Configura	ition (Female)
M12	000	000
IVIIZ	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

Size	Pin Configuration (Female)
M15	00
IVITO	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.



### O Cable Joiner







#### Features:

- Universal AC input / Full range (up to 305VAC)
- · Built-in active PFC function
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- · IP67 / IP65 design for indoor or outdoor installations
- "UL8750 listed" safety approved for HLG-80H
  BL
- · Class 2 power unit
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- Suitable for LED lighting and moving sign applications
- · Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 5 years warranty (Note.10)











HLG-80H-12 A Blank: IP67 rated. Cable for I/O connection.

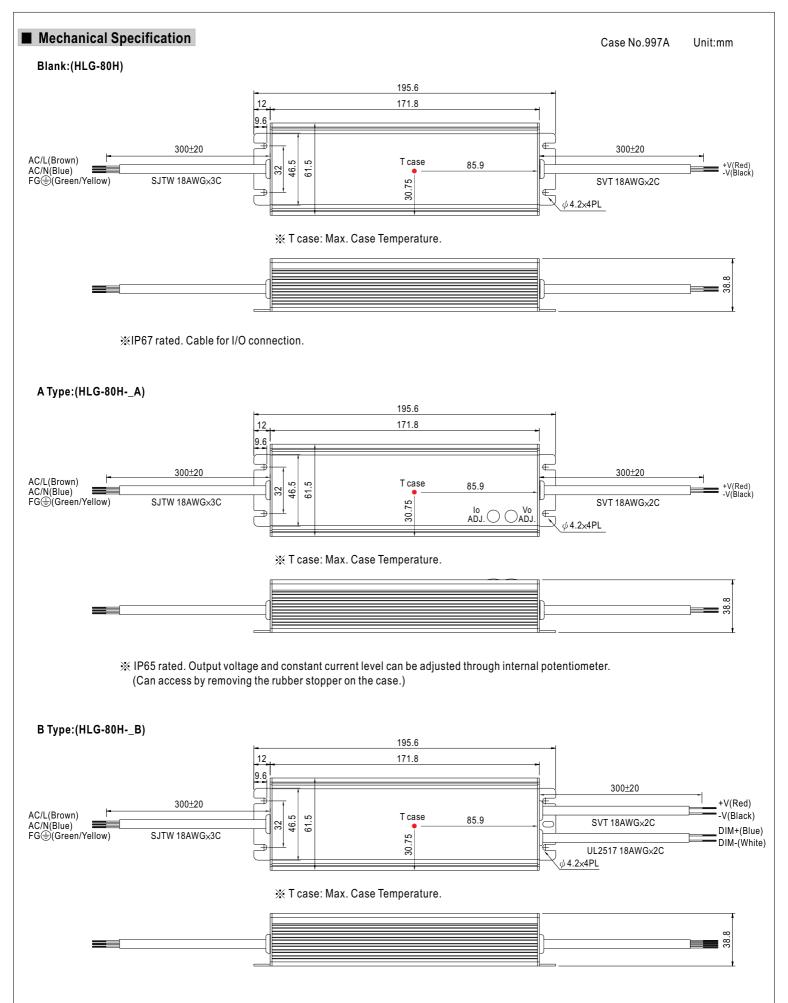
- A: IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
- B: IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.
- BL (option): Contact MEAN WELL for details.
- D (option): IP67 rated. Timer dimming function, contact MEAN WELL for details.

#### **SPECIFICATION**

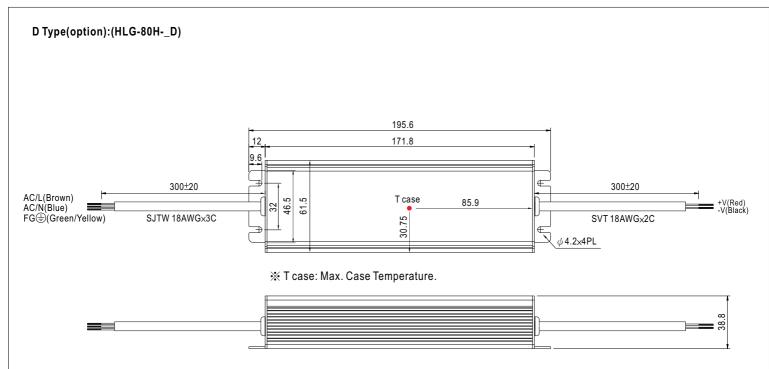
									_	
MODEL		HLG-80H-12	HLG-80H-15	HLG-80H-20	HLG-80H-24	HLG-80H-30	HLG-80H-36	HLG-80H-42	HLG-80H-48	HLG-80H-54
	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	7.2 ~12V	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V
	RATED CURRENT	5A	5A	4A	3.4A	2.7A	2.3A	1.95A	1.7A	1.5A
	RATED POWER	60W	75W	80W	81.6W	81W	82.8W	81.9W	81.6W	81W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE Note.6	10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V
OUTPUT	AUDDENT AD L DAMOS	Can be adjust	ed by internal p	potentiometer o	or through outp	ut cable				'
	CURRENT ADJ. RANGE	3 ~ 5A	3 ~ 5A	2.4 ~ 4A	2.04 ~ 3.4A	1.62 ~ 2.7A	1.38 ~ 2.3A	1.17 ~ 1.95A	1.02 ~ 1.7A	0.9 ~ 1.5A
	VOLTAGE TOLERANCE Note.3	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.8	2000ms, 80ms	/ 115VAC at ful	II load 100	0ms, 80ms / 23	0VAC at full loa	d ; B type 200	0ms, 200ms at	95% load 230	VAC / 115VAC
	HOLD UP TIME (Typ.)		ad 230VAC		,		, ,,	,		
	, , , ,	90 ~ 305VAC	127 ~ 43	1VDC						
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF>0.96/115\	/AC. PF>0.96/2	230VAC. PF>0	.94/277VAC at	full load (Pleas	se refer to "Pov	ver Factor Char	acteristic" curv	/e)
INPUT	EFFICIENCY (Typ.)	88%	89%	90%	90.5%	91%	91%	91%	91%	91%
	AC CURRENT (Typ.)	0.85A / 115VA	AC 0.425/	A / 230VAC	0.4A / 277VA	(C		1 11		
	INRUSH CURRENT (Typ.)		70A/230VAC	.,						
	LEAKAGE CURRENT	<0.75mA / 27								
		95 ~ 108%								
	OVER CURRENT Note.4		ne · Constant c	urrent limiting	recovers autor	natically after fa	ault condition is	s removed		
	SHORT CIRCUIT	- ,,		matically after			aut condition i	3 TOTHOVOU		
PROTECTION		14 ~ 17V	18 ~ 24V	23 ~ 30V	28 ~ 35V	35 ~ 43V	41 ~ 49V	48 ~ 58V	54 ~ 63V	59 ~ 68V
	OVER VOLTAGE			o/p voltage, re-		cover				
		85°C ±10°C (								
	OVER TEMPERATURE	,		o/p voltage, re-	-power on to re	cover				
	WORKING TEMP.	•	Refer to "Dera							
	WORKING HUMIDITY		non-condensir							
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80℃,		<u> </u>						
	TEMP. COEFFICIENT	±0.03%/°C (0								
	VIBRATION	,		le period for 7	72min_each ald	ong X, Y, Z axes	<u> </u>			
	1.2.0					3/54V & HLG-8		II 8750 listed fo	or HI G-80H-	]BI
	SAFETY STANDARDS Note.7	,		` '		7-2-13, IP65 or	,,		_	-
SAFETY &	WITHSTAND VOLTAGE			G:1.88KVAC	· · · · · · · · · · · · · · · · · · ·		ii or approved	, Design folor o	0 000000-1, 1	O V L 1 4 0 0 3 3 0 - 1
EMC	ISOLATION RESISTANCE			00.1.00KVAC						
LINO	EMC EMISSION	,	,			oad) ; EN6100	N 2 2			
	EMC IMMUNITY					5024, light indu		no 4KV/) critor	io A	
	MTBF	357.8Khrs mi		.K-217F (25°C)		JUZ4, IIGHL IIIGL	ion y level (Sul	ge 4rt v ), criter	ia A	
OTHERS	DIMENSION		11. MIL-HDB 8.8mm (L*W*H	. ,						
UINEKS	PACKING		s/14.4Kg/0.540	<u>,                                      </u>						
	All parameters NOT specia	0, 1			out rated lead	and 25°C of a	mhiant tampa	ratura		
NOTE	Ripple & noise are measure     Tolerance : includes set up     Constant current operation	ed at 20MHz o tolerance, line	of bandwidth by regulation and	y using a 12" t d load regulati	wisted pair-wir	e terminated v	vith a 0.1uf &	47uf parallel ca	•	s, but please

- 4. Constant current operation region is within 60% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.
- 5. Derating may be needed under low input voltages. Please check the static characteristics for more details.
- Type A only.
   Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.
- 8. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
- The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
- 10. Refer to warranty statement.

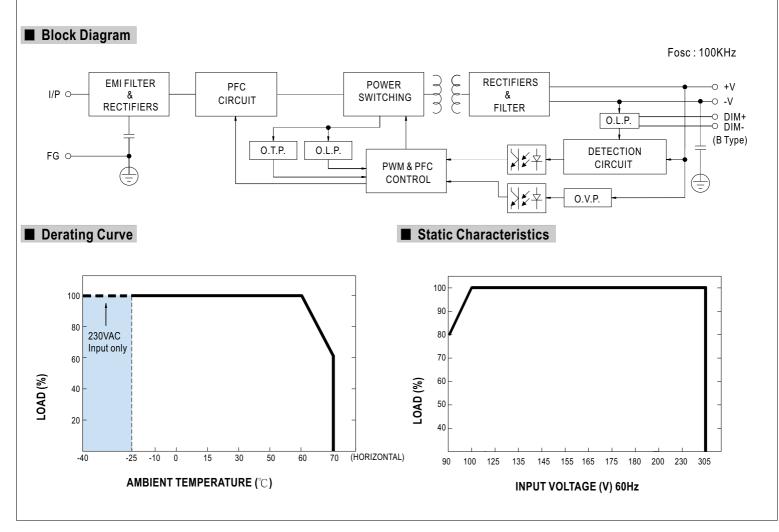




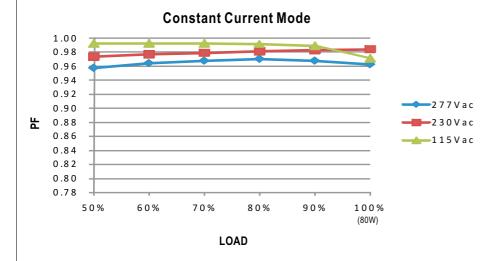




× IP67 rated. Timer dimming function, contact MEAN WELL for details.

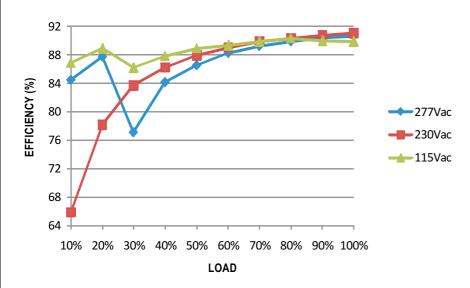






# **■** EFFICIENCY vs LOAD (48V Model)

HLG-80H series possess superior working efficiency that up to 91% can be reached in field applications.

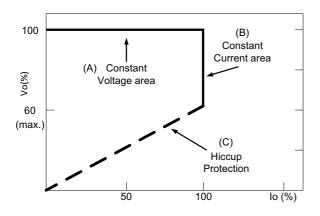


# ■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

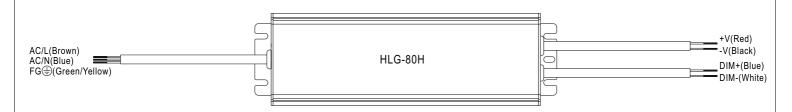
A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode [with LED driver, at area (A)] and CC mode [direct drive, at area (B)].



Typical LED power supply I-V curve





- $\frak{\ensuremath{\bowtie}}$  Please DO NOT connect "DIM-" to "-V".
- X Reference resistance value for output current adjustment (Typical)

Resistance value	Single driver	<b>10K</b> Ω	<b>20K</b> Ω	<b>30K</b> Ω	<b>40K</b> Ω	50Κ $Ω$	<b>60K</b> Ω	<b>70K</b> Ω	<b>80K</b> Ω	90ΚΩ	<b>100K</b> Ω	OPEN
	Multiple drivers (N=driver quantity for synchronized dimming operation)	10KΩ/N	20K Ω/N	30KΩ/N	40KΩ/N	50KΩ/N	60KΩ/N	<b>70K</b> Ω/ <b>N</b>	80KΩ/N	90K Ω/N	100K Ω/N	
Percentag	e of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%

#### ※ 1 ~ 10V dimming function for output current adjustment (Typical)

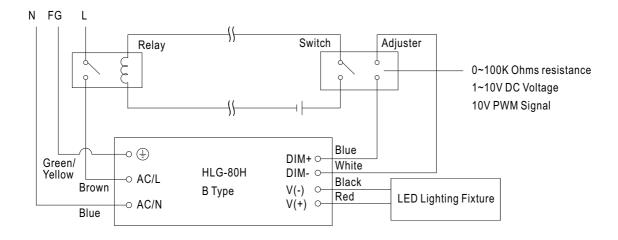
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%

#### \* 10V PWM signal for output current adjustment (Typical): Frequency range: 100Hz ~ 3KHz

Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%

- XUsing the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.

Dimming connection diagram for turning the lighting fixture ON/OFF:



Using a switch and relay can turn ON/OFF the lighting fixture.

- 1. Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
- 2. The LED lighting fixture can be turned ON/OFF by the switch.

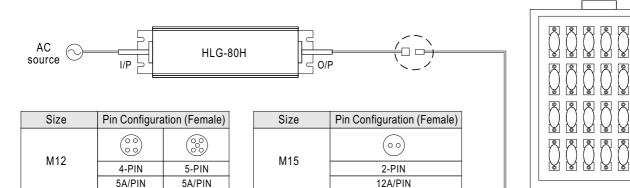
LED Lamp



# **■** WATERPROOF CONNECTION

#### Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-80H to operate in dry/wet/damp or outdoor environment.



Order No.

Suitable Current

### O Cable Joiner

Order No.

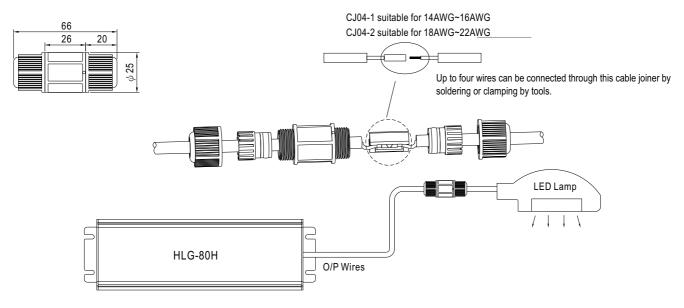
Suitable Current

M12-04

10A max

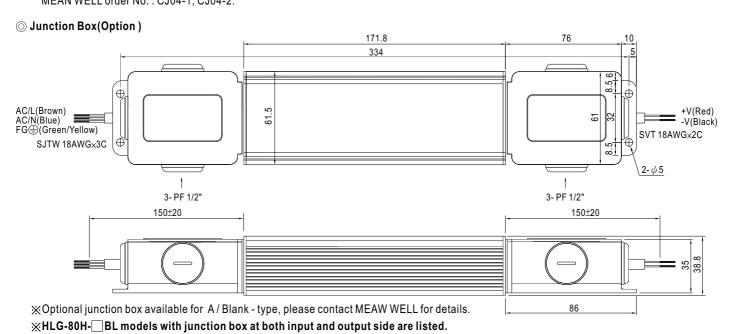
M12-05

10A max.



M15-02

12A max



# HLG-100H series



#### Features:

- Universal AC input / Full range (up to 305VAC)
- · Built-in active PFC function
- High efficiency up to 93%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- · OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- · Class 2 power unit
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- Suitable for LED lighting and street lighting applications
- · Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations













HLG-100H-20 A

Blank: IP67 rated. Cable for I/O connection.

A: IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.

B: IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.

D (option): IP67 rated. Timer dimming function, contact MEAN WELL for details.

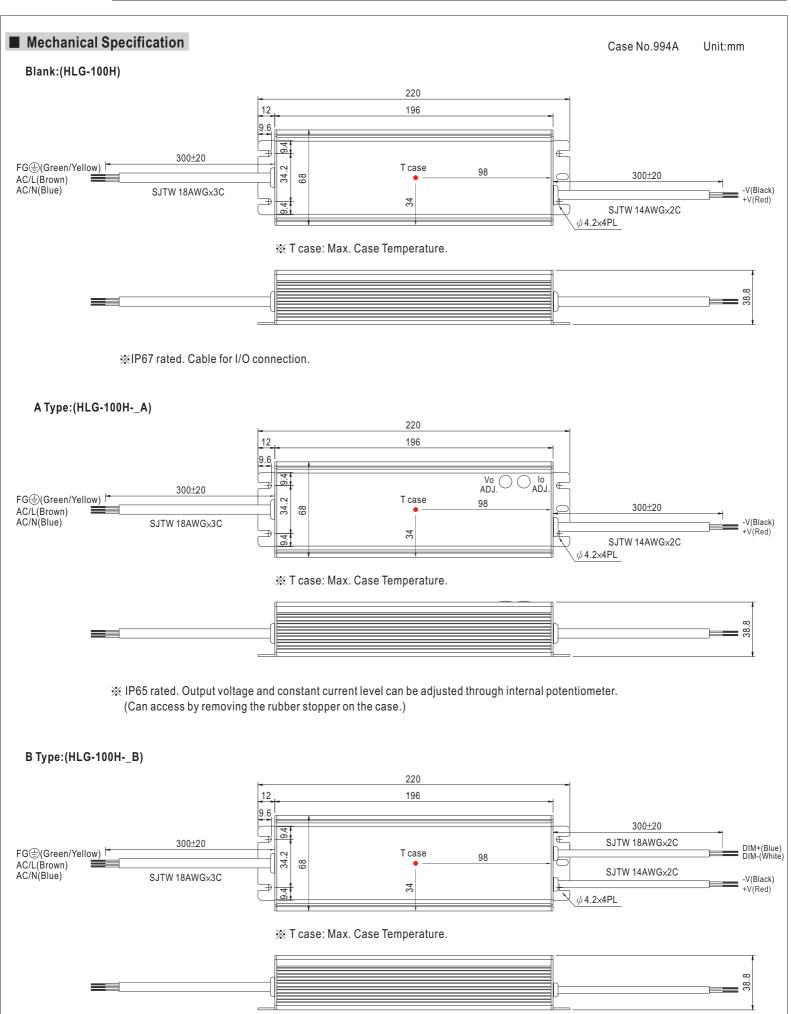
#### **SPECIFICATION**

MODEL		HLG-100H-20	HLG-100H-24	HLG-100H-30	HLG-100H-36	HLG-100H-42	HLG-100H-48	HLG-100H-54				
	DC VOLTAGE	20V	24V	30V	36V	42V	48V	54V				
	RATED CURRENT	4.8A	4A	3.2A	2.65A	2.28A	2A	1.77A				
	RATED POWER	96W	96W	96W	95.4W	95.76W	96W	95.58W				
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p				
	VOLTAGE ADJ. RANGE Note.5	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V				
OUTDUT	CURRENT AR L DANCE	Can be adjusted b	y internal potentior	neter or through ou	tput cable			•				
OUTPUT	CURRENT ADJ. RANGE	3 ~ 4.8A	2.5 ~ 4A	2 ~ 3.2A	1.65 ~ 2.65A	1.4 ~ 2.28A	1.25 ~ 2A	1.1 ~ 1.77A				
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%				
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%				
	LOAD REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%				
	SETUP, RISE TIME Note.7	2500ms, 50ms at	Oms, 50ms at full load 230VAC / 115VAC; B type 2500ms, 200ms at 95% load 230VAC / 115VA									
	HOLD UP TIME (Typ.)	16ms at full load	230VAC /115VAC									
	VOLTAGE RANGE Note.4	90 ~ 305VAC	127 ~ 431VDC									
	FREQUENCY RANGE	47 ~ 63Hz										
	POWER FACTOR (Typ.)	PF>0.98/115VAC,	PF>0.95/230VAC,	PF>0.93/277VAC	at full load (Please	refer to "Power Fac	tor Characteristic"	curve)				
INPUT	EFFICIENCY (Typ.)	93%	93%	93%	93%	93%	93%	93%				
	AC CURRENT (Typ.)	1.2A / 115VAC	0.55A / 230VAC	0.5A / 277VA	C							
	INRUSH CURRENT (Typ.)	COLD START 75	A/230VAC									
	LEAKAGE CURRENT	<0.75mA / 277VA	С									
	OVED OUDDENT	95 ~ 106%										
	OVER CURRENT	Protection type : 0	Constant current lin	niting, recovers aut	omatically after fau	It condition is remo	ved					
	SHORT CIRCUIT	Constant current I	limiting, recovers a	utomatically after fa	ault condition is rem	noved						
PROTECTION	01/50 1/01 74 05	23 ~ 27V	28 ~ 34V	34 ~ 38V	41 ~ 46V	47 ~ 53V	54 ~ 60V	59 ~ 65V				
	OVER VOLTAGE	Protection type : S	Shut down o/p volta	ige with auto-recov	ery or re-power on	to recovery						
	OVED TEMPEDATURE	100°C ±10°C (RT	H2)									
	OVER TEMPERATURE	Protection type :	Shut down o/p volt	tage, recovers aut	omatically after ter	nperature goes do	wn					
	WORKING TEMP.	-40 ~ +70°C (Refe	er to "Derating Curv	/e")								
	WORKING HUMIDITY	20 ~ 95% RH non-	-condensing									
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~	95% RH									
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50	0°C)									
	VIBRATION	10 ~ 500Hz, 5G 1:	2min./1cycle, perio	d for 72min. each	along X, Y, Z axes							
	0455574054054555	UL8750, CSA C2	2.2 No. 250.0-08,	EN61347-1, EN61	347-2-13 independ	dent IP65 or IP67,	J61347-1, J61347	'-2-13 approved;				
	SAFETY STANDARDS Note.6	design refer to UI	L60950-1, TUV EN	160950-1								
SAFETY &	WITHSTAND VOLTAGE	I/P-O/P:3.75KVA	.C I/P-FG:2KVA	C O/P-FG:0.5K\	/AC							
EMC	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, (	O/P-FG:100M Ohn	ns / 500VDC / 25°C	770% RH							
	EMC EMISSION	Compliance to EN	I55015, EN55022 (	CISPR22) Class B,	EN61000-3-2 Clas	ss C (≧60% load)	; EN61000-3-3					
	EMC IMMUNITY	Compliance to EN	161000-4-2,3,4,5,6	,8,11, EN61547, EN	155024, light indust	ry level (surge 4KV	'), criteria A					
	MTBF	192.2Khrs min.			-							
OTHERS	DIMENSION	220*68*38.8mm (L*W*H)										
	PACKING	1.12Kg; 12pcs/14.4Kg/0.8CUFT										
NOTE	1. All parameters NOT special	lly mentioned are r	measured at 230V	AC input, rated loa	ad and 25°C of am	bient temperature.						

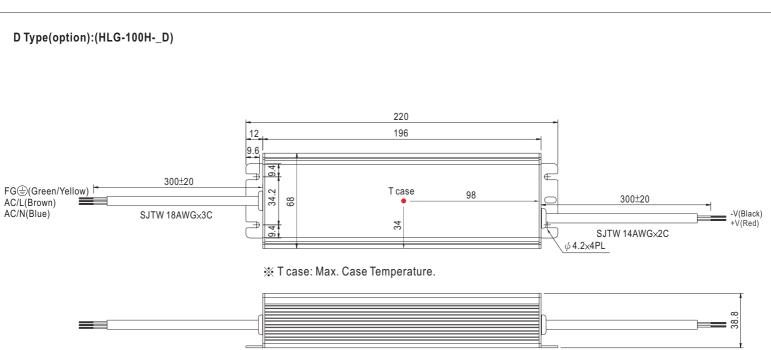
## NOTE

- 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
- 3. Tolerance: includes set up tolerance, line regulation and load regulation.
- 4. Derating may be needed under low input voltages. Please check the static characteristics for more details.
- 6. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.
- 7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
- 8. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
- 9. Refer to warranty statement.

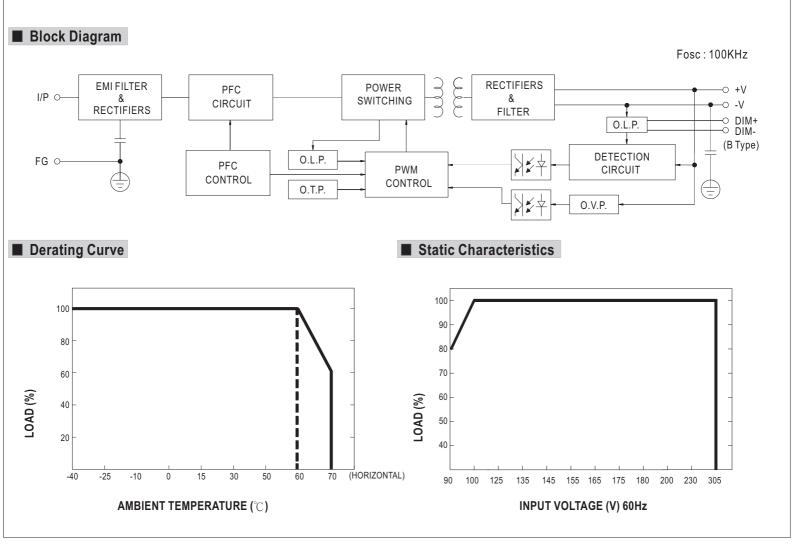




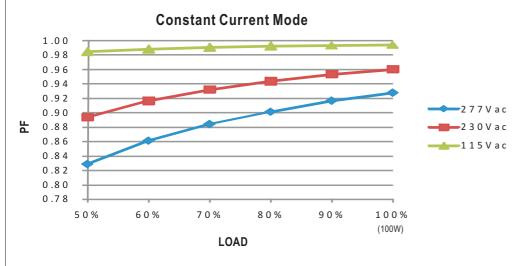




★ IP67 rated. Timer dimming function, contact MEAN WELL for details.

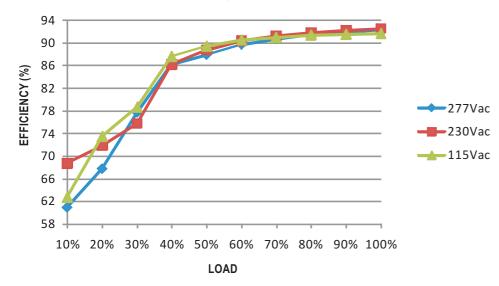






# **■** EFFICIENCY vs LOAD (48V Model)

HLG-100H series possess superior working efficiency that up to 93% can be reached in field applications.

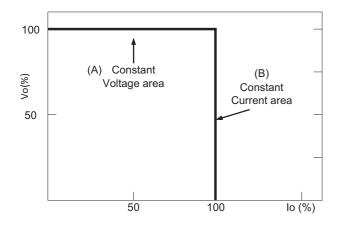


# ■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve



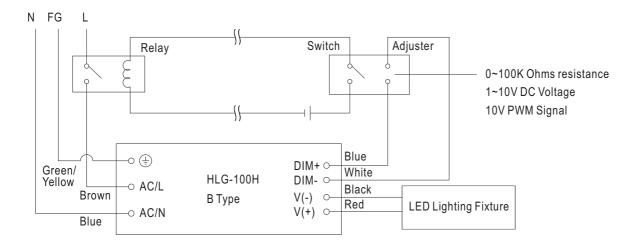


- ※ Please DO NOT connect "DIM-" to "-V".
- X Reference resistance value for output current adjustment (Typical)

Resistance value	<b>10K</b> Ω	<b>20K</b> Ω	<b>30K</b> Ω	<b>40K</b> Ω	<b>50K</b> Ω	<b>60K</b> Ω	<b>70K</b> Ω	<b>80K</b> Ω	<b>90K</b> Ω	<b>100K</b> Ω	OPEN		
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%		
× 1 ∼ 10V dimming function for output current adjustment (Typical)													
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN		
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%		
※ 10V PWM signal for output of	※ 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz												
Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN		
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%		

- XUsing the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.
- \*Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture ON/OFF:



Using a switch and relay can turn  $\ensuremath{\mathsf{ON/OFF}}$  the lighting fixture.

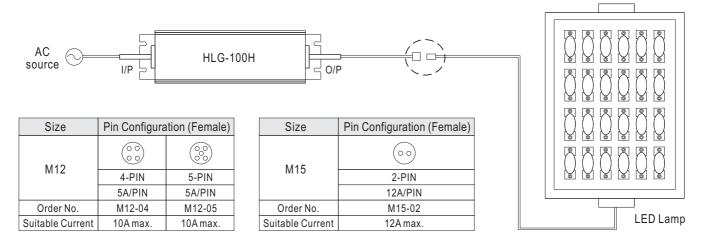
- 1.Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
- 2. The LED lighting fixture can be turned ON/OFF by the switch.



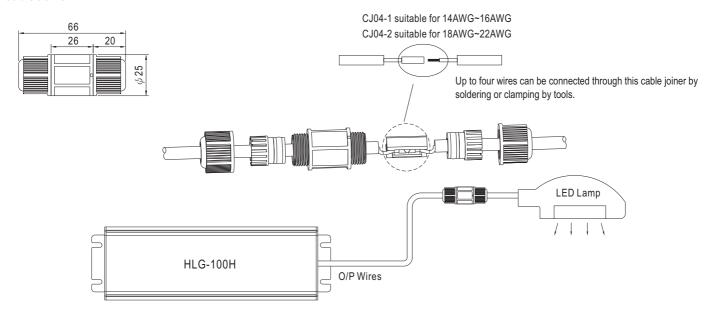
# ■ WATERPROOF CONNECTION

### Waterproof connector

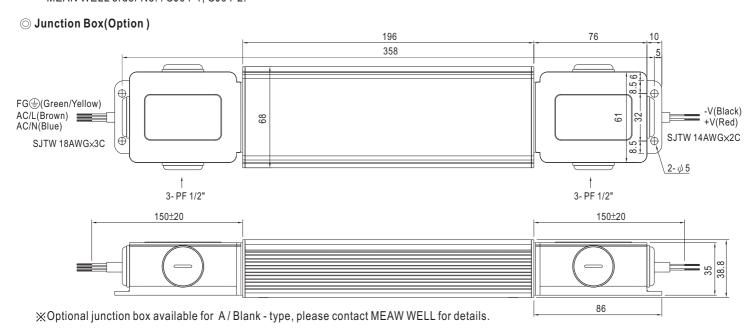
Waterproof connector can be assembled on the output cable of HLG-100H to operate in dry/wet/damp or outdoor environment.



#### O Cable Joiner



\*\*CJ04 cable joiner can be purchased independently for user's own assembly. MEAN WELL order No.: CJ04-1, CJ04-2.



# HLG-120H series





- Universal AC input / Full range (up to 305VAC)
- · Built-in active PFC function
- High efficiency up to 93.5%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- · Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- Suitable for LED lighting and street lighting applications
- · Compliance to worldwide safety regulations for lighting
- · Suitable for dry / damp / wet locations















HLG-120H-12 A

Blank: IP67 rated. Cable for I/O connection.

A: IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.

B: IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.

D (option): IP67 rated. Timer dimming function, contact MEAN WELL for details.

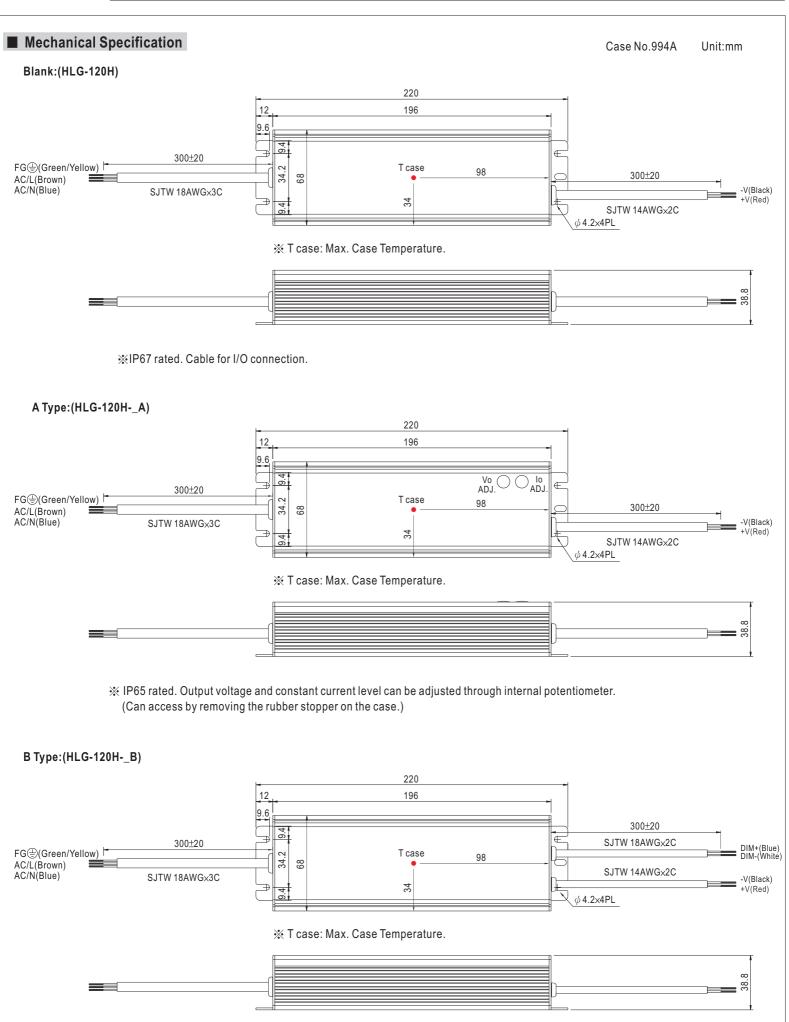
#### **SPECIFICATION**

MODEL		HLG-120H-12	HLG-120H-15	HLG-120H-20	HLG-120H-24	HLG-120H-30	HLG-120H-36	HLG-120H-42	HLG-120H-48	HLG-120H-54			
	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V			
	RATED CURRENT	10A	8A	6A	5A	4A	3.4A	2.9A	2.5A	2.3A			
	RATED POWER	120W	120W	120W	120W	120W	122.4W	121.8W	120W	124.2W			
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p			
	VOLTAGE ADJ. RANGE Note.5	10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V			
OUTDUT	CURRENT AR L RANGE	Can be adjust	ed by internal p	potentiometer	or through outp	out cable							
OUTPUT	CURRENT ADJ. RANGE	5 ~ 10A	4 ~ 8A	3 ~ 6A	2.5 ~ 5A	2 ~ 4A	1.7 ~ 3.4A	1.4 ~ 2.9A	1.2 ~ 2.5A	1.1 ~ 2.3A			
	VOLTAGE TOLERANCE Note.3	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%			
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	LOAD REGULATION	±2.0%	±1.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	SETUP, RISE TIME Note.7	2500ms, 50ms	s at full load	230VAC / 115\	/AC; B type:	2500ms, 200ms	s at 95% load	230VAC / 115	5VAC				
	HOLD UP TIME (Typ.)	12ms at full lo	ad 230VAC	/ 115VAC									
	VOLTAGE RANGE Note.4	90 ~ 305VAC	127 ~ 43	1VDC									
	FREQUENCY RANGE	47 ~ 63Hz											
	POWER FACTOR (Typ.)	PF>0.98/115V	AC, PF>0.95/2	230VAC, PF>0	.93/277VAC at	full load (Pleas	se refer to "Pow	er Factor Cha	racteristic" curv	/e)			
INPUT	EFFICIENCY (Typ.)	92%	92%	93%	93%	93%	93%	93%	93.5%	93.5%			
	AC CURRENT (Typ.)	1.4A / 115VAC	0.6A/2	30VAC 0	.55A / 277VAC	•			•				
	INRUSH CURRENT (Typ.)	COLD START	75A/230VAC										
	LEAKAGE CURRENT	<0.75mA/27	7VAC										
	OVED OUDDENT	95 ~ 108%											
	OVER CURRENT	Protection typ	e : Constant ci	urrent limiting,	recovers autor	natically after fa	ault condition is	s removed					
	SHORT CIRCUIT	Constant curr	ent limiting, re	covers automa	tically after fau	It condition is r	emoved						
PROTECTION	01/50 1/01 74 05	14 ~ 17V	54 ~ 60V	59 ~ 65V									
	OVER VOLTAGE	Protection type: Shut down o/p voltage with auto-recovery or re-power on to recovery											
	OVED TEMPEDATURE	85°C ±10°C (I	RTH2)										
	OVER TEMPERATURE	Protection typ	e : Shut down	o/p voltage, re	covers automa	tically after ten	perature goes	down					
	WORKING TEMP.	-40 ~ +70°C (	Refer to "Dera	ting Curve")									
	WORKING HUMIDITY	20 ~ 95% RH	non-condensir	ng									
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80°C,	10 ~ 95% RH										
	TEMP. COEFFICIENT	±0.03%/℃ (0	~50°C)										
	VIBRATION	10 ~ 500Hz, 5	G 12min./1cyc	cle, period for	72min. each al	ong X, Y, Z axe	S						
	CAFETY CTANDADDO	UL8750, CSA	C22.2 No. 25	0.0-08, EN61	347-1, EN613	47-2-13 indepe	endent IP65 or	IP67, J61347	-1, J61347-2-1	3 approved ;			
	SAFETY STANDARDS Note.6	design refer t	o UL60950-1,	TUV EN6095	0-1								
SAFETY &	WITHSTAND VOLTAGE	I/P-O/P:3.75I	KVAC I/P-F	G:2KVAC O	/P-FG:0.5KVA	(C							
EMC	ISOLATION RESISTANCE	I/P-O/P, I/P-F	G, O/P-FG:10	00M Ohms / 50	0VDC / 25°C /	70% RH							
	EMC EMISSION	Compliance to	EN55015, EN	N55022 (CISPF	R22) Class B, E	N61000-3-2 C	lass C (≧50%	load) ; EN610	100-3-3				
	EMC IMMUNITY	Compliance to	EN61000-4-2	2,3,4,5,6,8,11,	EN61547, EN5	5024, light indu	ustry level (sur	ge 4KV), criter	ria A				
	MTBF	192.2Khrs mii	n. MIL-HDB	K-217F (25°C)									
OTHERS	DIMENSION	220*68*38.8n	nm (L*W*H)										
	PACKING		s/14.4Kg/0.8Cl	UFT									
NOTE	1. All parameters NOT special	ly mentioned a	are measured	at 230VAC in	put, rated load	and 25°C of a	ambient tempe	rature.					

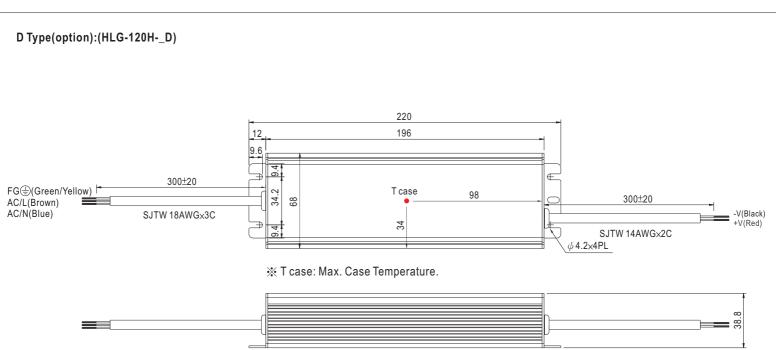
## NOTE

- 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
- 3. Tolerance: includes set up tolerance, line regulation and load regulation.
- 4. Derating may be needed under low input voltages. Please check the static characteristics for more details.
- 6. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.
- 7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
- 8. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
- 9. Refer to warranty statement.

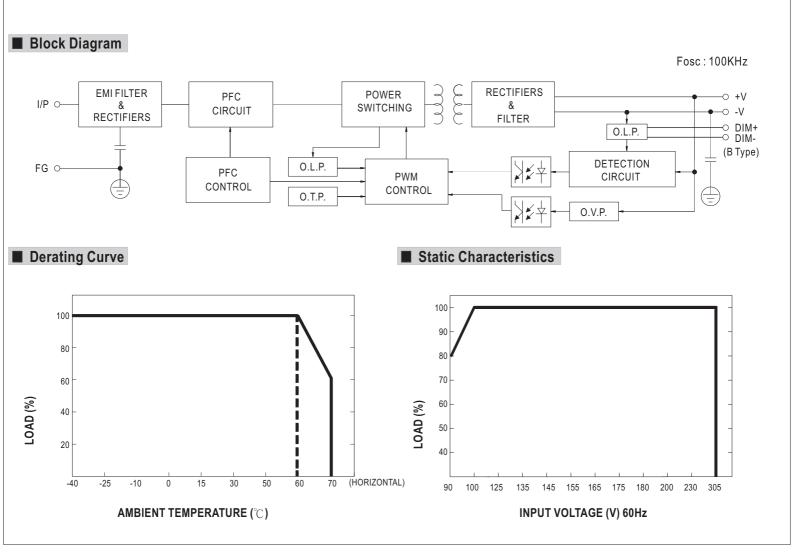




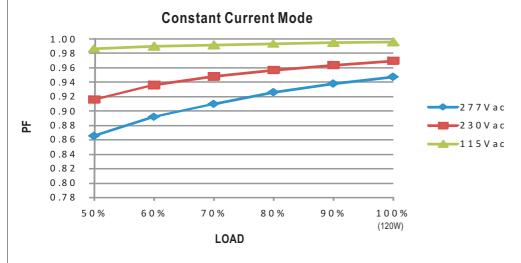




※ IP67 rated. Timer dimming function, contact MEAN WELL for details.

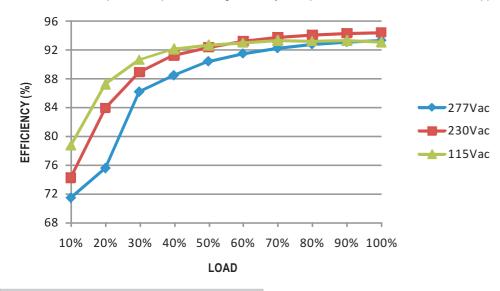






# **■** EFFICIENCY vs LOAD (48V Model)

HLG-120H series possess superior working efficiency that up to 93.5% can be reached in field applications.

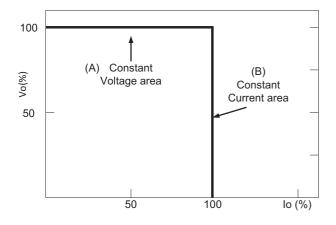


# ■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve



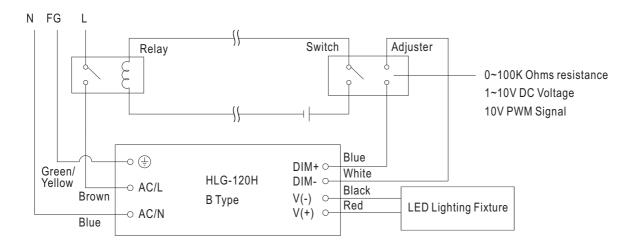


- ※ Please DO NOT connect "DIM-" to "-V".
- X Reference resistance value for output current adjustment (Typical)

Resistance value	<b>10K</b> Ω	<b>20K</b> Ω	<b>30K</b> Ω	<b>40K</b> Ω	<b>50K</b> Ω	<b>60K</b> Ω	<b>70K</b> Ω	<b>80K</b> Ω	<b>90K</b> Ω	<b>100K</b> Ω	OPEN		
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%		
× 1 ~ 10V dimming function for output current adjustment (Typical)													
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN		
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%		
※ 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz													
Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN		
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%		

- XUsing the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.
- \*Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture ON/OFF:



Using a switch and relay can turn ON/OFF the lighting fixture.

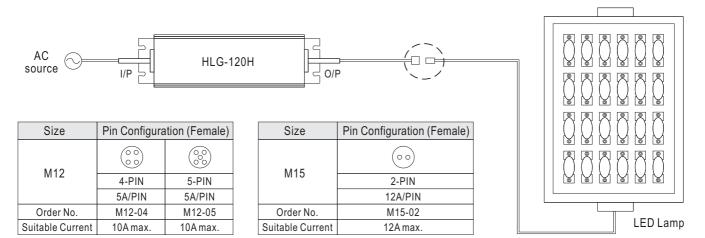
- 1.Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
- 2. The LED lighting fixture can be turned ON/OFF by the switch.



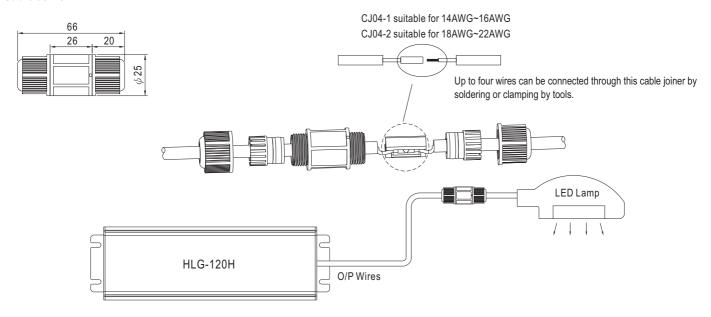
# ■ WATERPROOF CONNECTION

### Waterproof connector

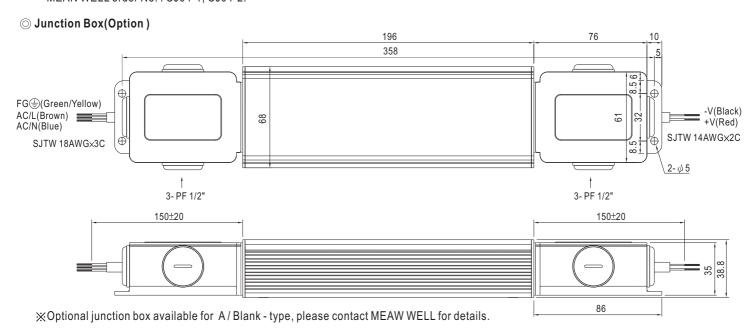
Waterproof connector can be assembled on the output cable of HLG-120H to operate in dry/wet/damp or outdoor environment.



#### O Cable Joiner



\*\*CJ04 cable joiner can be purchased independently for user's own assembly. MEAN WELL order No.: CJ04-1, CJ04-2.



# HLG-150H series





- Universal AC input / Full range (up to 305VAC)
- · Built-in active PFC function
- High efficiency up to 94%
- · Protections: Short circuit / Over current / Over voltage / Over temperature
- · Cooling by free air convection
- · OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- · Suitable for LED lighting and street lighting applications
- · Compliance to worldwide safety regulations for lighting
- · Suitable for dry / damp / wet locations
- 5 years warranty (Note.9)













HLG-150H-12 A

Blank: IP67 rated. Cable for I/O connection.

A: IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.

B: IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.

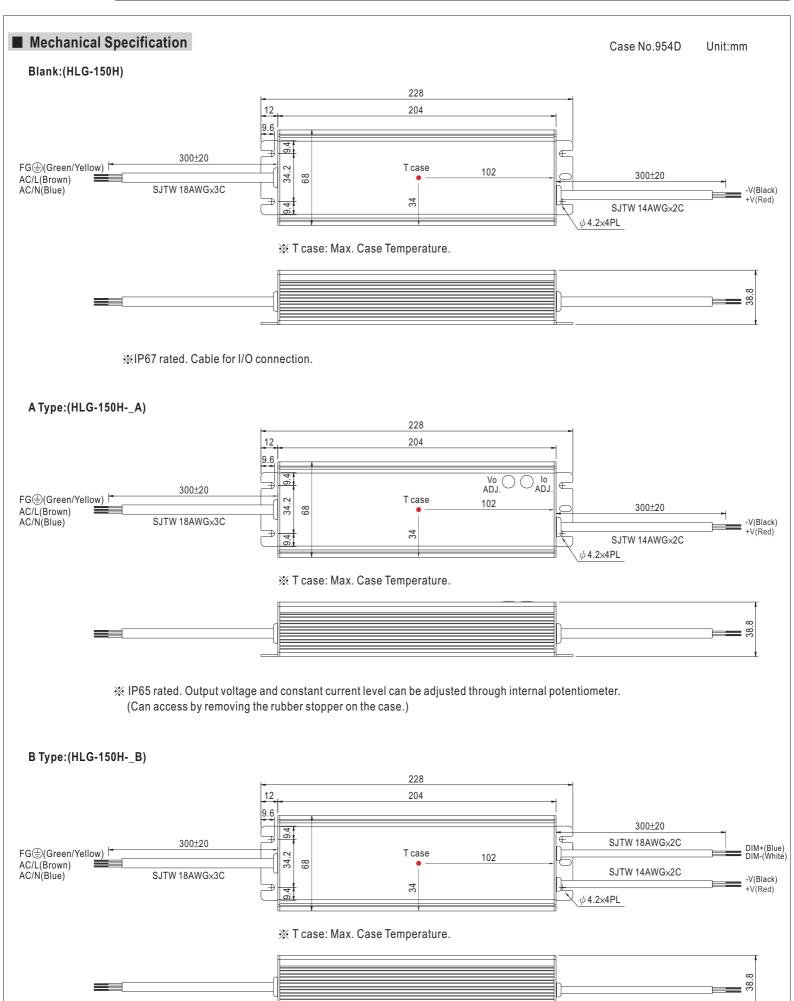
D (option): IP67 rated. Timer dimming function, contact MEAN WELL for details.

#### **SPECIFICATION**

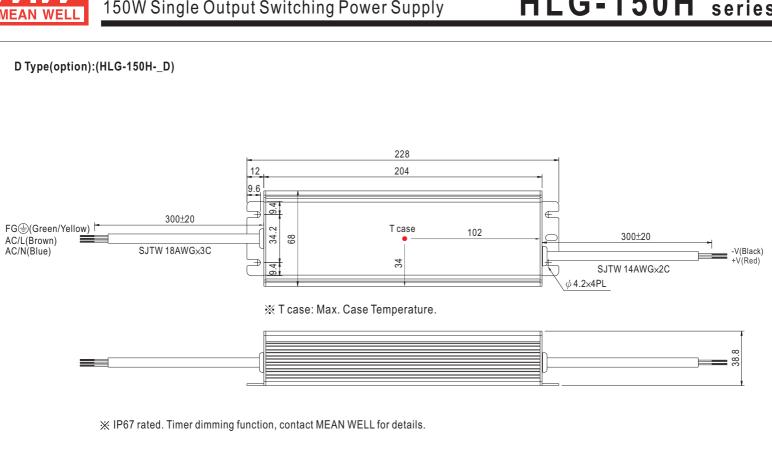
<b>IODEL</b>		HLG-150H-12	HLG-150H-15	HLG-150H-20	HLG-150H-24	HLG-150H-30	HLG-150H-36	HLG-150H-42	HLG-150H-48	HLG-150H-54						
	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V						
	RATED CURRENT	12.5A	10A	7.5A	6.3A	5A	4.2A	3.6A	3.2A	2.8A						
	RATED POWER	150W	150W	150W	151.2W	150W	151.2W	151.2W	153.6W	151.2W						
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-r						
	VOLTAGE ADJ. RANGE Note.5	10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V						
	AUDDENT AD L DANGE	Can be adjust	ed by internal p	otentiometer	or through outp	ut cable										
UTPUT	CURRENT ADJ. RANGE	7.5 ~ 12.5A	6 ~ 10A	4.5 ~ 7.5A	3.8 ~ 6.3A	3 ~ 5A	2.5 ~ 4.2A	2.16 ~ 3.6A	1.92 ~ 3.2A	1.68 ~ 2.8						
	VOLTAGE TOLERANCE Note.3	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%						
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%						
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%						
	SETUP, RISE TIME Note.7	2500ms, 80m	s at full load	230VAC / 115\	/AC; B type:	2500ms, 200ms	s at 95% load	230VAC / 115	VAC							
	HOLD UP TIME (Typ.)	16ms at full lo	ad 230VAC	/ 115VAC												
	VOLTAGE RANGE Note.4	90 ~ 305VAC	00 ~ 305VAC 127 ~ 431VDC													
	FREQUENCY RANGE	47 ~ 63Hz														
	POWER FACTOR (Typ.)	PF>0.98/115\	AC, PF>0.95/2	230VAC, PF>0	.92/277VAC at	full load (Pleas	se refer to "Pov	ver Factor Cha	racteristic" cur	/e)						
NPUT	EFFICIENCY (Typ.)	91.5%	92%	93%	93%	93.5%	93.5%	94%	94%	94%						
	AC CURRENT (Typ.)	1.7A / 115VA	0.75A/	230VAC	0.7A / 277VAC											
	INRUSH CURRENT (Typ.)	COLD START	75A/230VAC													
	LEAKAGE CURRENT	<0.75mA / 27	7VAC													
		95 ~ 108%														
	OVER CURRENT		e · Constant c	urrent limiting	recovers autor	natically after fa	ault condition is	s removed								
	SHORT CIRCUIT			<u> </u>		It condition is r		0.101110100								
ROTECTION		14 ~ 17V	18 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 38V	41 ~ 46V	47 ~ 53V	54 ~ 60V	59 ~ 65V						
	OVER VOLTAGE	Protection typ	e : Shut down	o/p voltage wit	h auto-recover	y or re-power o	n to recovery									
		100°C ±10°C		1 0		, ,	,									
	OVER TEMPERATURE		· /	o/p voltage, re	covers automa	tically after tem	nperature goes	down								
	WORKING TEMP.	71	Refer to "Dera	1 0,			·									
	WORKING HUMIDITY	,	non-condensir	,												
NVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80°C,		-3												
	TEMP. COEFFICIENT	±0.03%/°C (0														
	VIBRATION	- '	- /	le period for 3	72min_each al	ong X, Y, Z axe	ς									
	11211111111			•		47-2-13 indepe		· IP67 .I61347	-1 .161347-2-1	13 annrove						
	SAFETY STANDARDS Note.6			TUV EN60950		II E TO III GOPT	31140111111 00 01	11 01,001011	1,001011 2	ιο αρριστο						
AFETY &	WITHSTAND VOLTAGE			G:2KVAC O		C										
MC	ISOLATION RESISTANCE			00M Ohms / 50												
	EMC EMISSION					N61000-3-2 C	lace C ( > 60%	load) · EN610	NN 3 3							
	EMC IMMUNITY			•	,	5024, light indu	,	, .								
	MTBF	192.2Khrs mi		K-217F (25°C)		3024, light mut	ustry lever (sur	ge 4KV), Cillei	ia A							
THERS	DIMENSION	228*68*38.8n		N-211F (20 C)												
THERS	PACKING		s/14.8Kg/0.8Cl	IFT												
	FACKING	1. τοιλή, τέρω	,, 17.011g/0.001	01 1												

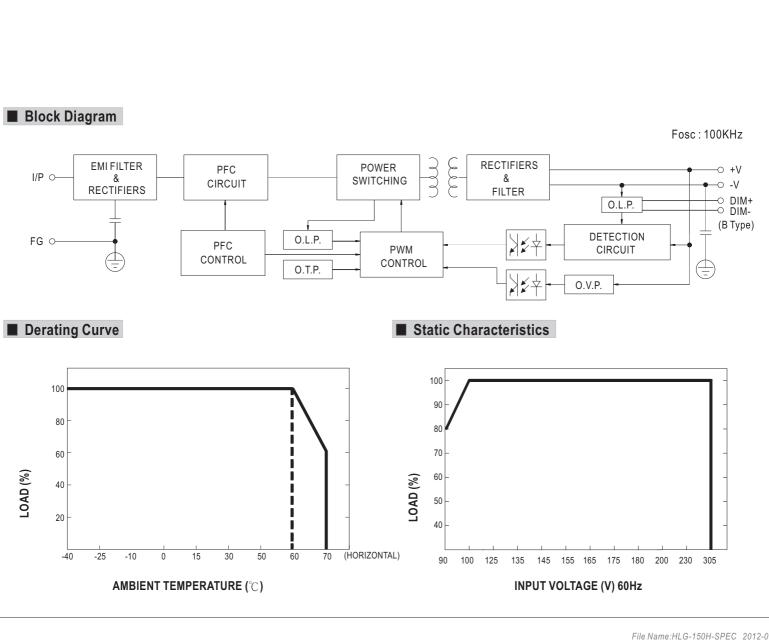
- 3. Tolerance: includes set up tolerance, line regulation and load regulation.
- 4. Derating may be needed under low input voltages. Please check the static characteristics for more details.
- 6. Safety and EMC design refer to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part18.
- 7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
- 8. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
- 9. Refer to warranty statement.



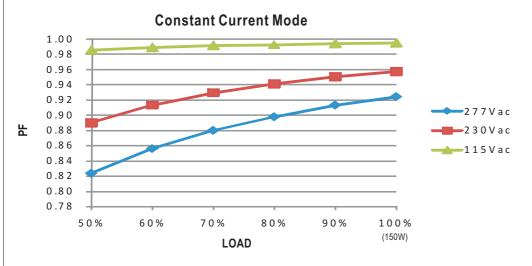






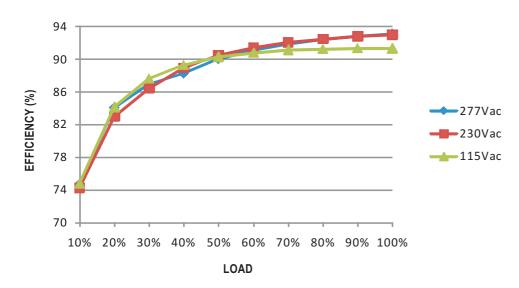






# ■ EFFICIENCY vs LOAD (48V Model)

HLG-150H series possess superior working efficiency that up to 94% can be reached in field applications.

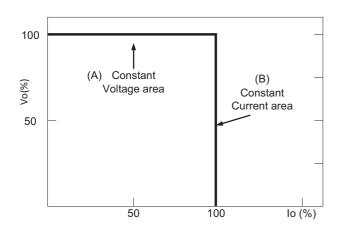


# ■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

 $A \ typical \ LED \ power \ supply \ may \ either \ work \ in \ "constant \ voltage \ mode \ (CV) \ or \ constant \ current \ mode \ (CC)" \ to \ drive \ the \ LEDs.$ 

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve



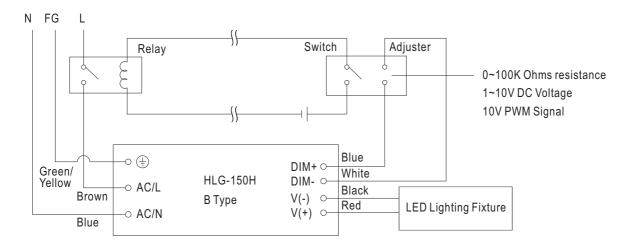


- ※ Please DO NOT connect "DIM-" to "-V".
- X Reference resistance value for output current adjustment (Typical)

			•		,							
Resistance value	<b>10K</b> Ω	<b>20K</b> Ω	<b>30K</b> Ω	<b>40K</b> Ω	<b>50K</b> Ω	<b>60K</b> Ω	<b>70K</b> Ω	<b>80K</b> Ω	<b>90K</b> Ω	<b>100K</b> Ω	OPEN	
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%	
※ 1 ~ 10V dimming function for	output c	urrent adj	justment	(Typical)								
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN	
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%	
× 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz												
Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN	
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%	

- XUsing the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.
- \*Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture ON/OFF:



Using a switch and relay can turn ON/OFF the lighting fixture.

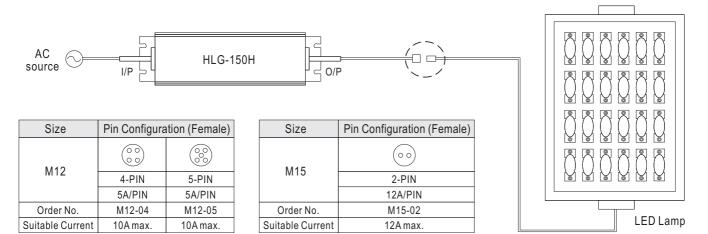
- 1.Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
- 2. The LED lighting fixture can be turned ON/OFF by the switch.



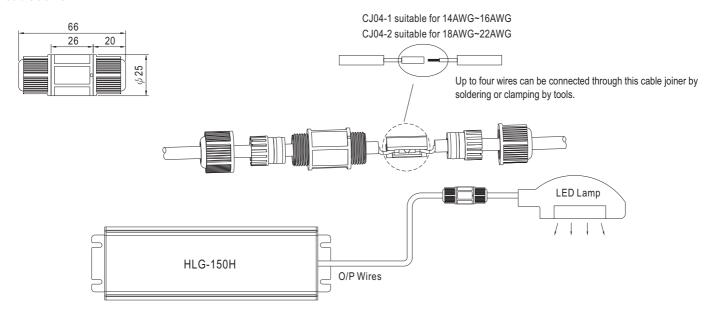
# ■ WATERPROOF CONNECTION

### Waterproof connector

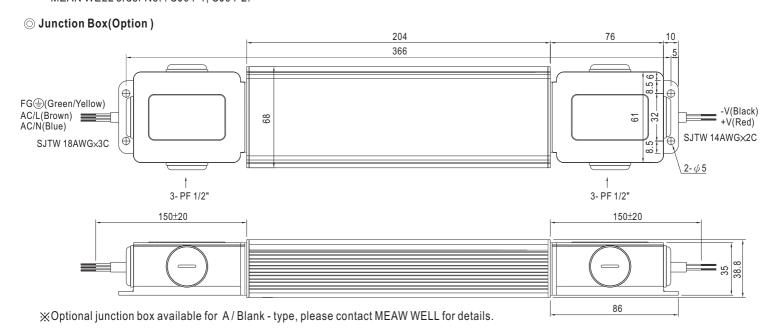
Waterproof connector can be assembled on the output cable of HLG-150H to operate in dry/wet/damp or outdoor environment.



#### O Cable Joiner



\*\*CJ04 cable joiner can be purchased independently for user's own assembly. MEAN WELL order No.: CJ04-1, CJ04-2.



# HLG-185H series





#### Features :

- Universal AC input / Full range (up to 305VAC)
- · Built-in active PFC function
- High efficiency up to 94%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- · Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- · Suitable for LED lighting and street lighting applications
- · Compliance to worldwide safety regulations for lighting
- · Suitable for dry / damp / wet locations
- 5 years warranty (Note.9)



















Blank: IP67 rated. Cable for I/O connection.

A: IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.

B: IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or potentiometer.

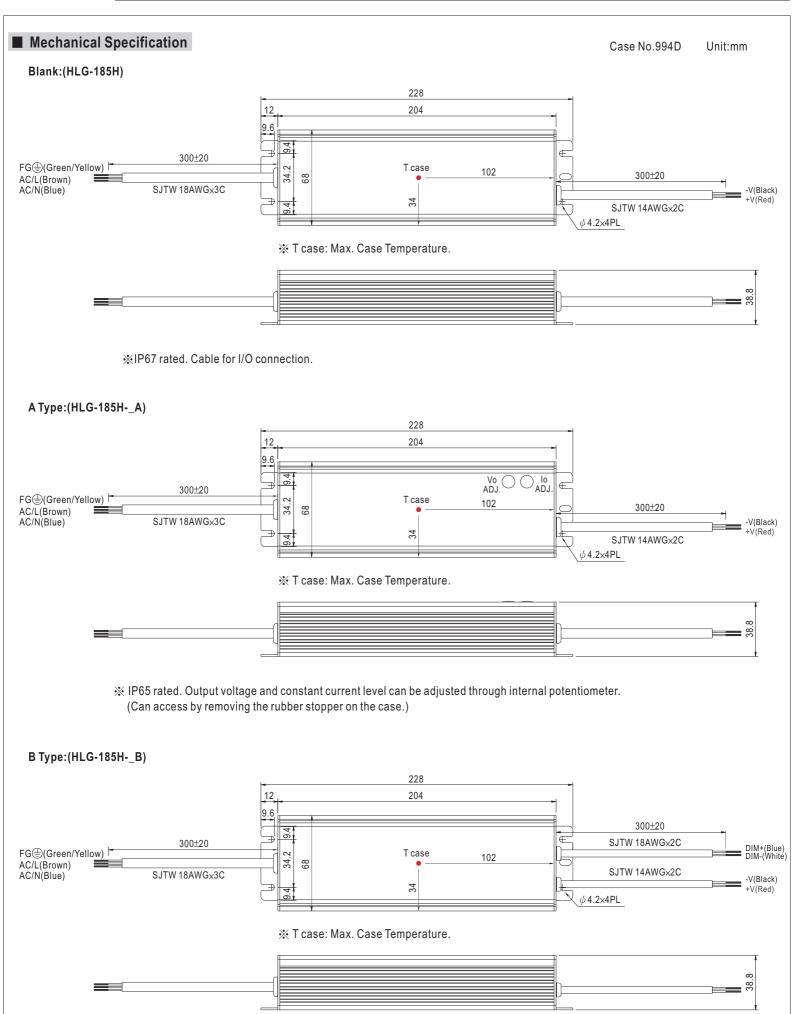
D (option): IP67 rated. Timer dimming function, contact MEAN WELL for details.

#### **SPECIFICATION**

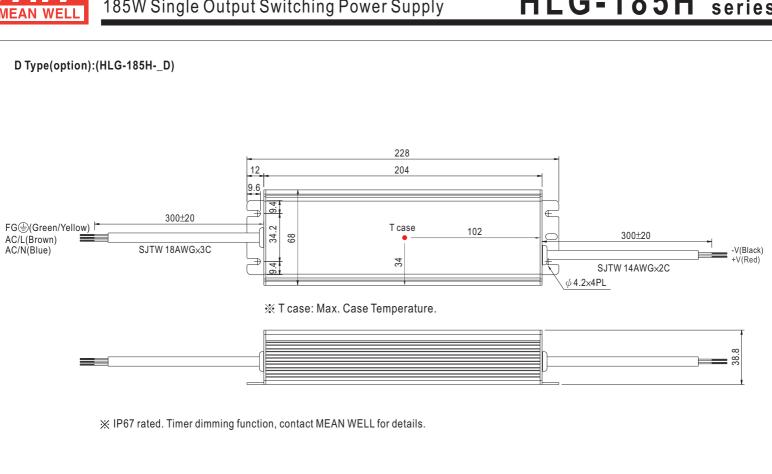
MODEL			HLG-185H-12	HLG-185H-15	HLG-185H-20	HLG-185H-24	HLG-185H-30	HLG-185H-36	HLG-185H-42	HLG-185H-48	HLG-185H-54			
	DC VOLTAGE		12V	15V	20V	24V	30V	36V	42V	48V	54V			
	RATED CURRENT		13A	11.5A	9.3A	7.8A	6.2A	5.2A	4.4A	3.9A	3.45A			
	RATED POWER		156W	172.5W	186W	187.2W	186W	187.2W	184.8W	187.2W	186.3W			
	RIPPLE & NOISE (	max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p			
	VOLTAGE ADJ. RA	ANGE Note.5	10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V			
			Can be adjust	ed by internal p	potentiometer o	or through outp	ut cable			•				
OUTPUT	CURRENT ADJ. R.	ANGE	6.5 ~ 13A	5.75 ~ 11.5A	4.65 ~ 9.3A	3.9 ~ 7.8A	3.1 ~ 6.2A	2.6 ~ 5.2A	2.2 ~ 4.4A	1.95 ~ 3.9A	1.72 ~ 3.45A			
	VOLTAGE TOLERA	NCE Note.3	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%			
	LINE REGULATIO	N	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	LOAD REGULATION	ON	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	SETUP, RISE TIME	Note.7	2500ms, 80ms at full load 230VAC / 115VAC ; B type 2500ms, 200ms at 95% load 230VAC / 115VAC											
	HOLD UP TIME (T)	yp.)	16ms at full load 230VAC / 115VAC											
	VOLTAGE RANGE	Note.4	90 ~ 305VAC	127 ~ 43	1VDC									
	FREQUENCY RAN	IGE	47 ~ 63Hz											
	POWER FACTOR	(Typ.)	PF>0.98/115\	/AC, PF>0.95/2	230VAC, PF>0	.92/277VAC at	full load (Pleas	e refer to "Pov	ver Factor Cha	racteristic" cur	/e)			
	EFFICIENCY (Typ.	.)	91.5%	92%	93%	93.5%	93.5%	93.5%	94%	94%	94%			
INPUT	AC CURRENT	12V	1.8A / 115VA	0.8A/2	30VAC 0.	7A / 277VAC								
	(Typ.)	15V ~ 54V	2.1A / 115VAC											
	INRUSH CURREN	T (Typ.)	COLD START	COLD START 75A/230VAC										
	LEAKAGE CURRE	NT	<0.75mA / 27	7VAC										
			95 ~ 108%											
	OVER CURRENT		Protection type: Constant current limiting, recovers automatically after fault condition is removed											
	SHORT CIRCUIT		Constant current limiting, recovers automatically after fault condition is removed											
			14 ~ 17V	18 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 38V	41 ~ 46V	47 ~ 53V	54 ~ 60V	59 ~ 65V			
PROTECTION	OVER VOLTAGE		Protection typ	e : Shut down	o/p voltage wit	h auto-recover	y or re-power o	n to recovery	-	-				
			Protection type: Shut down o/p voltage with auto-recovery or re-power on to recovery  100°C ±10°C (RTH2)											
	OVER TEMPERAT	URE	Protection type: Shut down o/p voltage, recovers automatically after temperature goes down											
	WORKING TEMP.		-40 ~ +70°C (	Refer to "Dera	tina Curve")									
	WORKING HUMID	ITY	,	non-condensir	,									
ENVIRONMENT	STORAGE TEMP.,		-40 ~ +80°C,		<u> </u>									
	TEMP. COEFFICIE		±0.03%/°C (0											
	VIBRATION		`		ele period for 3	72min_each ald	ong X, Y, Z axe	<u> </u>						
	7.2.0						•		IP67 J61347	-1, J61347-2-	I3 approved :			
	SAFETY STANDAI	RDS Note.6			TUV EN60950				01,001011	.,00.0	o app.o.ou,			
SAFETY &	WITHSTAND VOLT	ΓAGE	,	·	G:2KVAC O		<u></u>							
EMC	ISOLATION RESIS	-												
Lino	EMC EMISSION	TAITOL		I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH  Compliance to EN55015, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (≥50% load); EN61000-3-3										
	EMC IMMUNITY			Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge 4KV), criteria A										
	MTBF		192.2Khrs min. MIL-HDBK-217F (25°C)											
OTHERS	DIMENSION		192.2Khrs min. MIL-HDBK-217F (25 C)  228*68*38.8mm (L*W*H)											
OTHERO	PACKING		1.15Kg; 12pcs		UFT									
	1. All parameters	NOT special	0. 1			out rated load	and 25°C of a	mhient tempe	rature					
NOTE	Ripple & noise     Tolerance : inc.	are measure	ed at 20MHz o	f bandwidth by	y using a 12" t	wisted pair-wir				apacitor.				

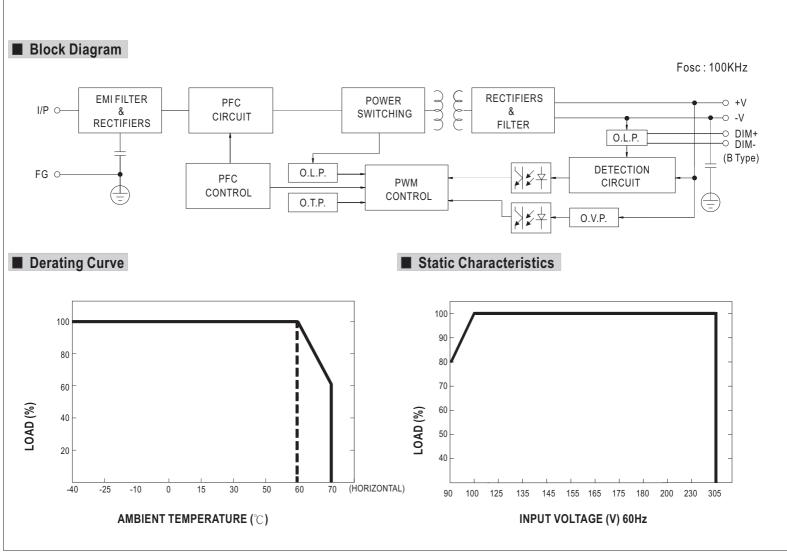
- 3. Tolerance : includes set up tolerance, line regulation and load regulation.
- 4. Derating may be needed under low input voltages. Please check the static characteristics for more details.
- 5. Type A only.
- 6. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.
- 7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
- 8. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
- 9. Refer to warranty statement.





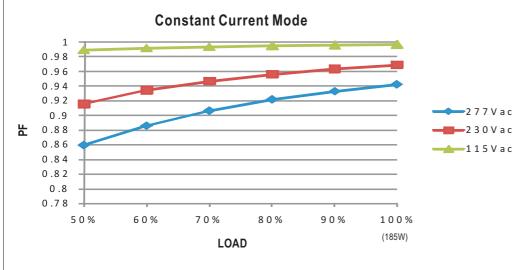






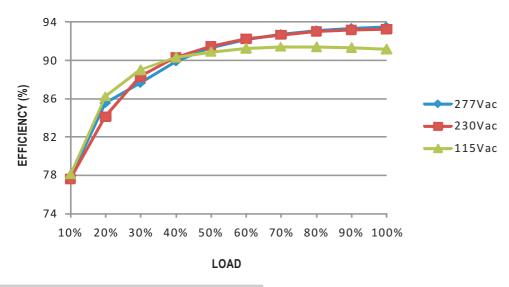


## ■ Power Factor Characteristic



## **■** EFFICIENCY vs LOAD (48V Model)

HLG-185H series possess superior working efficiency that up to 94% can be reached in field applications.

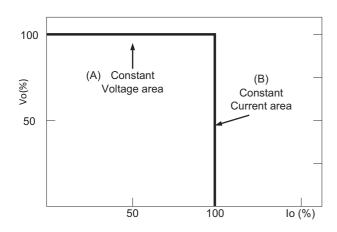


## ■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve



## ■ DIMMING OPERATION

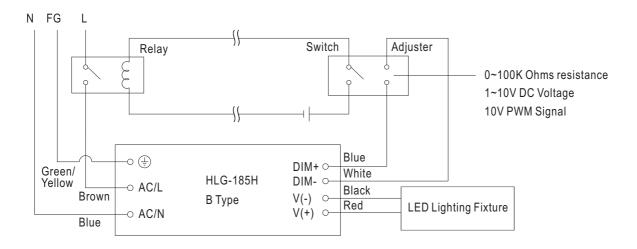


- ※ Please DO NOT connect "DIM-" to "-V".
- X Reference resistance value for output current adjustment (Typical)

Resistance value	<b>10K</b> Ω	<b>20K</b> Ω	<b>30K</b> Ω	<b>40K</b> Ω	<b>50K</b> Ω	<b>60K</b> Ω	<b>70K</b> Ω	<b>80K</b> Ω	<b>90K</b> Ω	<b>100K</b> Ω	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%
※ 1 ~ 10V dimming function for	output c	urrent adj	justment	(Typical)							
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%
× 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz											
Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%

- XUsing the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.
- \*Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture ON/OFF:



Using a switch and relay can turn ON/OFF the lighting fixture.

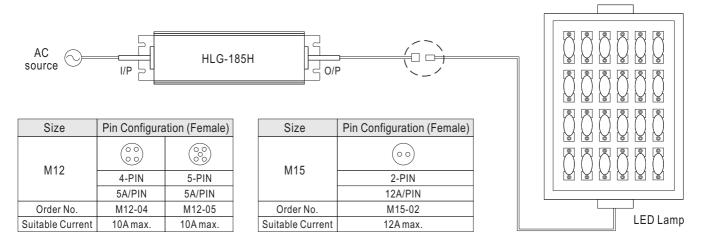
- 1.Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
- 2. The LED lighting fixture can be turned ON/OFF by the switch.



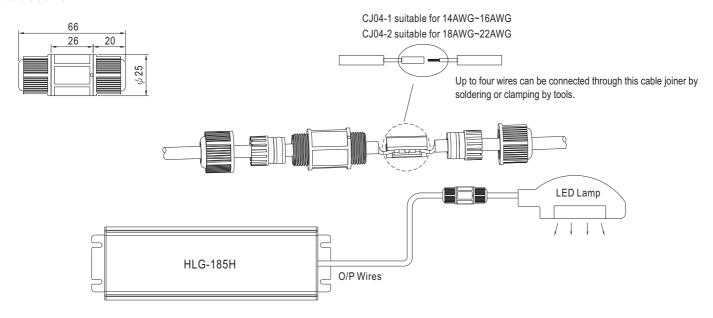
## ■ WATERPROOF CONNECTION

## Waterproof connector

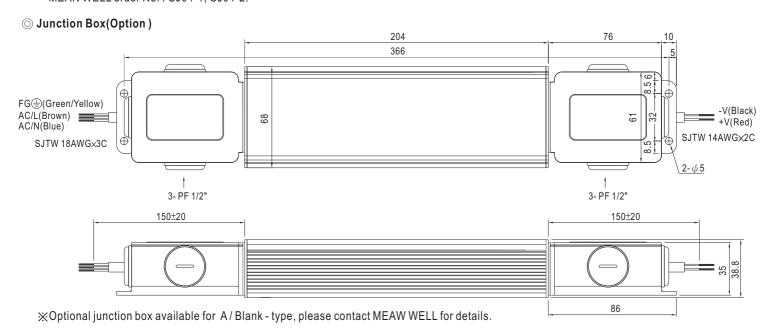
Waterproof connector can be assembled on the output cable of HLG-185H to operate in dry/wet/damp or outdoor environment.



#### O Cable Joiner



\*\*CJ04 cable joiner can be purchased independently for user's own assembly. MEAN WELL order No.: CJ04-1, CJ04-2.

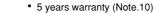






#### Features:

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- Suitable for LED lighting and street lighting applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations















Blank: IP67 rated. Cable for I/O connection.

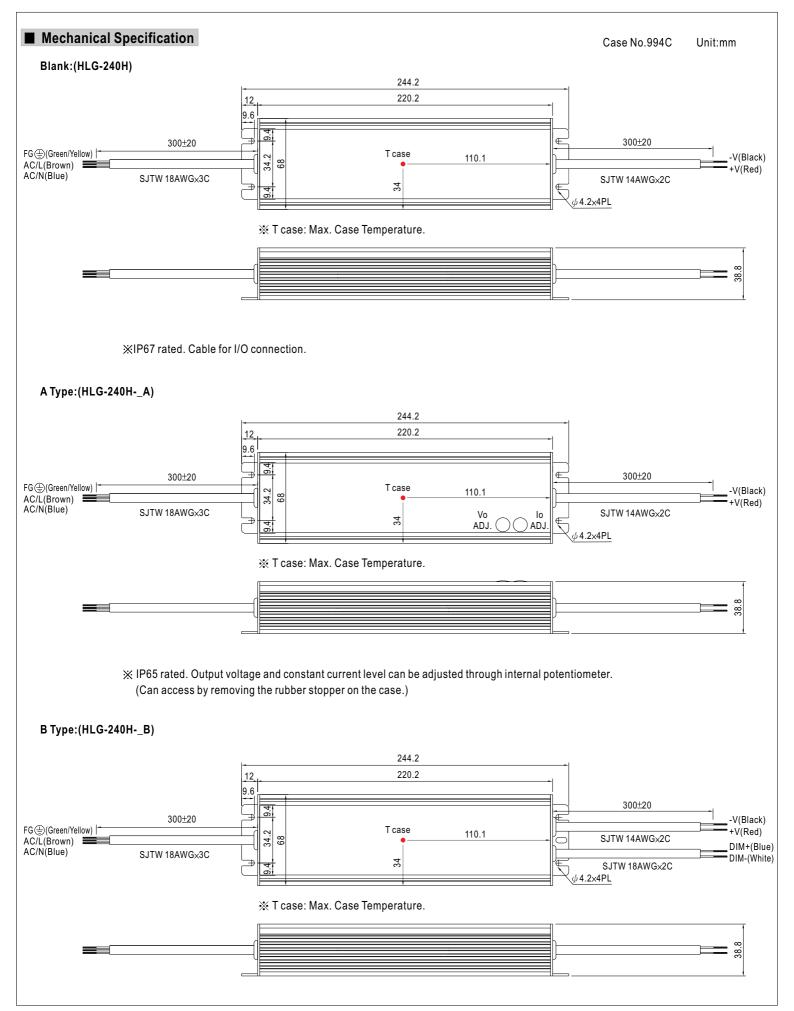
- A: IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
- B: IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.
- C: Terminal block for I/O connection. Output voltage and constant current level can be adjusted through internal potentiometer.
- D (option): IP67 rated. Timer dimming function, contact MEAN WELL for details.

#### **SPECIFICATION**

10. Refer to warranty statement.

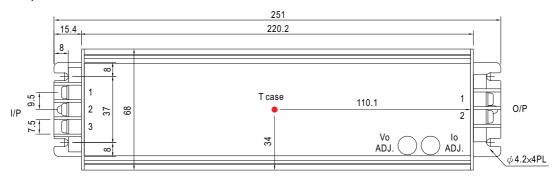
MODEL		HLG-240H-12	HLG-240H-15	HLG-240H-20	HLG-240H-24	HLG-240H-30	HLG-240H-36	HLG-240H-42	HLG-240H-48	HLG-240H-54		
	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V		
	CONSTANT CURRENT REGION Note.4	6~12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V		
	RATED CURRENT	16A	15A	12A	10A	8A	6.7A	5.72A	5A	4.45A		
	RATED POWER	192W	225W	240W	240W	240W	241.2W	240.24W	240W	240.3W		
	RIPPLE & NOISE (max.) Note.2	· .	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p		
	VOLTAGE ADJ. RANGE Note.6				22.4 ~ 25.6V		33.5 ~ 38.5V	39 ~ 45V	44.8 ~ 51.2V			
OUTPUT	VOLINGE ADD. HANGE NOTE.			potentiometer			00.0 00.0	00 400	14.0 01.21	100 01 V		
0011 01	CURRENT ADJ. RANGE	8 ~ 16A	7.5 ~ 15A	6 ~ 12A	5 ~ 10A	4 ~ 8A	3.3 ~ 6.7A	2.86 ~ 5.72A	25∼5∆	2.23 ~ 4.45		
	VOLTAGE TOLERANCE Note.3		±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%		
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%		
		±2.0%	±1.5%	±1.0%			±0.5%	±0.5%				
			2.0%   ±1.5%   ±1.0%   ±0.5%   ±0.5%   ±0.5%   ±0.5%   ±0.5%   ±0.5%   ±0.5%									
	·	-			AC							
	HOLD UP TIME (Typ.)		ad 230VAC									
		90 ~ 305VAC	127 ~ 43	1VDC								
	FREQUENCY RANGE	47 ~ 63Hz										
	POWER FACTOR (Typ.)				· ·	I	actor Characte	1	T	T =		
INPUT	EFFICIENCY (Typ.)	90%	90%	92%	93%	93%	93%	93%	93.5%	94%		
	AC CURRENT (Typ.)	4A / 115VAC	2A / 230V	'AC 1.2A	/ 277VAC							
	INRUSH CURRENT (Typ.)	COLD START	75A/230VAC									
	LEAKAGE CURRENT	<0.75mA/27	7VAC									
	OVER CURRENT Note.4	95 ~ 108%										
	OVER CORREINT Note.4	Protection typ	e : Constant c	urrent limiting,	recovers autor	natically after f	ault condition is	s removed				
	SHORT CIRCUIT	Hiccup mode,	recovers auto	matically after	fault condition	is removed						
PROTECTION		13.5 ~ 18V	17.5 ~ 21.5V	23.5 ~ 27.5V	27 ~ 34V	33 ~ 39V	43 ~ 49V	48 ~ 54V	55 ~ 63V	60 ~ 67V		
	OVER VOLTAGE	Protection typ	e : Shut down	and latch off o	/p voltage, re-p	ower on to rec	over					
		105°C ±5°C (	TSW1)	95°C ±5°C (T	TSW1)							
	OVER TEMPERATURE	Protection ty	pe : Shut dowr	n o/p voltage, r	ecovers autor	natically after	temperature g	oes down				
	WORKING TEMP.	-40 ~ +70°C (	Refer to "Dera	ting Curve")								
	WORKING HUMIDITY	20 ~ 95% RH	non-condensir	ng								
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80°C,										
	TEMP. COEFFICIENT	±0.03%/°C (0										
	VIBRATION	- (	- /	cle, period for	72min each al	nna Y V 7 ava	c					
	VIBICATION						0.0-08, TUV EN	161347 1 ENIG	1247 2 12 inc	lonandant		
	SAFETY STANDARDS Note.7						, IP65 or IP67,					
SAFETY &	WITHSTAND VOLTAGE						, 11 00 01 11 07,	301347-1,30	1047-2-10 app	ioveu		
-				G:1.88KVAC								
EMC	ISOLATION RESISTANCE	, .	-,	00M Ohms / 50			0 (> 500)	I I) FN040	00.00			
	EMC EMISSION	· ·		•			Class C (≥50%					
	EMC IMMUNITY					5024, light ind	ustry level (sur	ge 4KV), criter	ıa A			
	MTBF			K-217F (25°C)								
OTHERS	DIMENSION		, ,,	HLG-240H-Bla			n (L*W*H)(HLG					
	PACKING								·0-C)			
NOTE	PACKING  1.3Kg; 12pcs/16.6Kg/0.84CUFT(HLG-240-Blank/A/B)  1.23Kg; 12pcs/15.8Kg/1.16CUFT(HLG-240-C)  1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.  2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.  3. Tolerance: includes set up tolerance, line regulation and load regulation.  4. Constant current operation region is within 50% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.  5. Derating may be needed under low input voltages. Please check the static characteristics for more details.  6. Type A and type C only.  7. Safety and EMC design refer to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part18.  8. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.  9. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the											



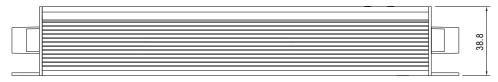








T case: Max. Case Temperature.



X Output voltage and constant current level can be adjusted through internal potentiometer. (Can access by removing the rubber stopper on the case.)

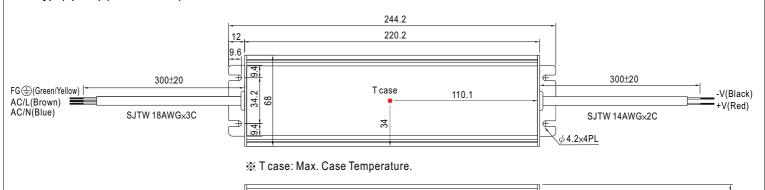
AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	FG ±
2	AC/L
3	AC/N

DC Output Terminal Pin No. Assignment

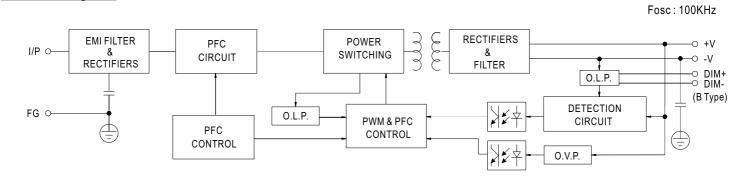
Pin No.	Assignment
1	-V
2	+V

#### D Type(option):(HLG-240H-\_D)

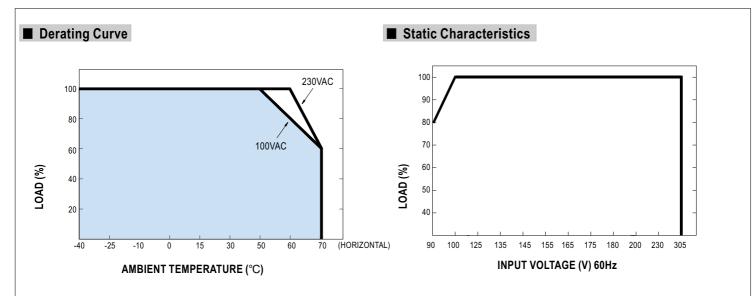


 $\times$  IP67 rated. Timer dimming function, contact MEAN WELL for details.

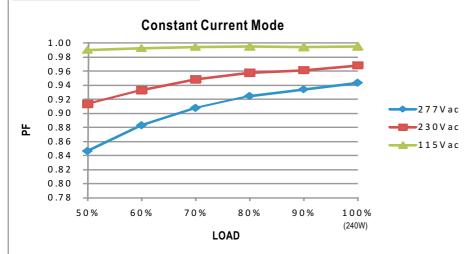






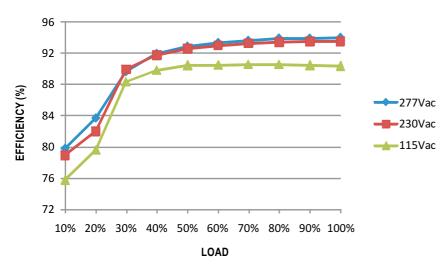


## **■** Power Factor Characteristic



## **■** EFFICIENCY vs LOAD (48V Model)

 $HLG-240H\ series\ possess\ superior\ working\ efficiency\ that\ up\ to\ 93.5\%\ can\ be\ reached\ in\ field\ applications.$ 



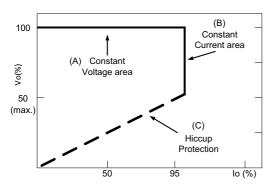


#### ■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

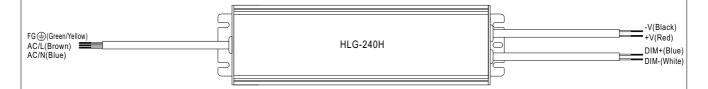
A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve

## **■** DIMMING OPERATION



- X Please DO NOT connect "DIM-" to "-V".
- X Reference resistance value for output current adjustment (Typical)

Resistance	Single driver	<b>10K</b> Ω	<b>20K</b> Ω	<b>30K</b> Ω	<b>40K</b> Ω	<b>50K</b> Ω	<b>60K</b> Ω	<b>70K</b> Ω	<b>80K</b> Ω	<b>90K</b> Ω	<b>100K</b> Ω	OPEN
value	Multiple drivers (N=driver quantity for synchronized dimming operation)	10KΩ/N	20KΩ/N	30KΩ/N	40KΩ/N	50KΩ/N	60K Ω/N	70K Ω /N	80KΩ/N	90KΩ/N	100KΩ/N	
Percentage	e of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

#### 

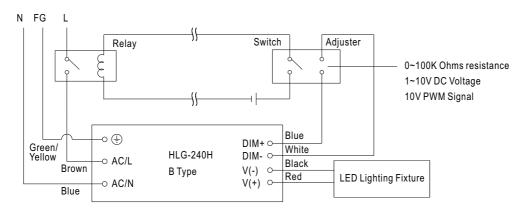
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

#### ※ 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz

Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

- XUsing the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.
- XDirect connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture ON/OFF:



Using a switch and relay can turn ON/OFF the lighting fixture.

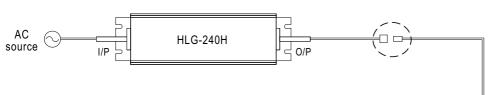
- 1.Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
- 2. The LED lighting fixture can be turned ON/OFF by the switch.



## **■** WATERPROOF CONNECTION

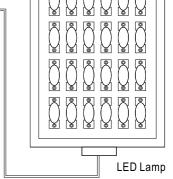
#### Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-240H to operate in dry/wet/damp or outdoor environment.

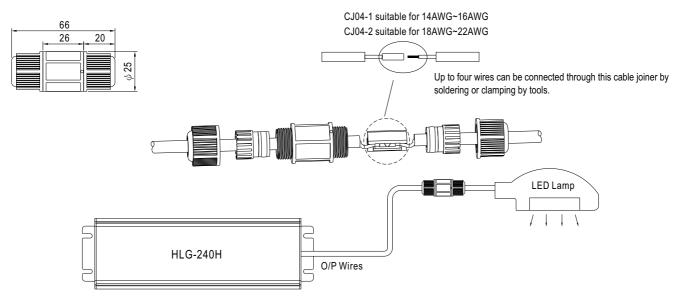


Size	Pin Configura	ntion (Female)		
M12	000	000		
IVIIZ	4-PIN	5-PIN		
	5A/PIN	5A/PIN		
Order No.	M12-04	M12-05		
Suitable Current	10A max.	10A max.		

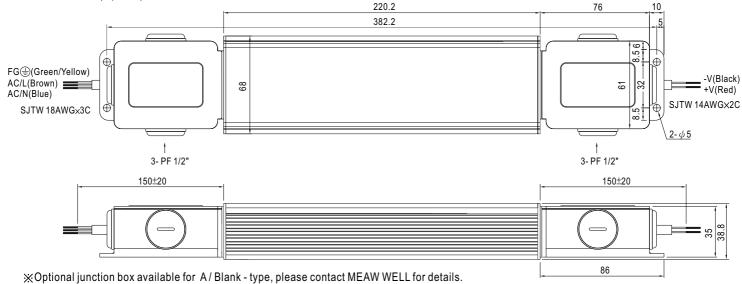
Size	Pin Configuration (Female)
M45	00
M15	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.



## O Cable Joiner











- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 95%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- · Cooling by free air convection
- · OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- · Suitable for LED lighting and street lighting applications
- · Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet location
- 5 years warranty (Note.10)



















HLG-320H-12 A Blank: IP67 rated. Cable for I/O connection.

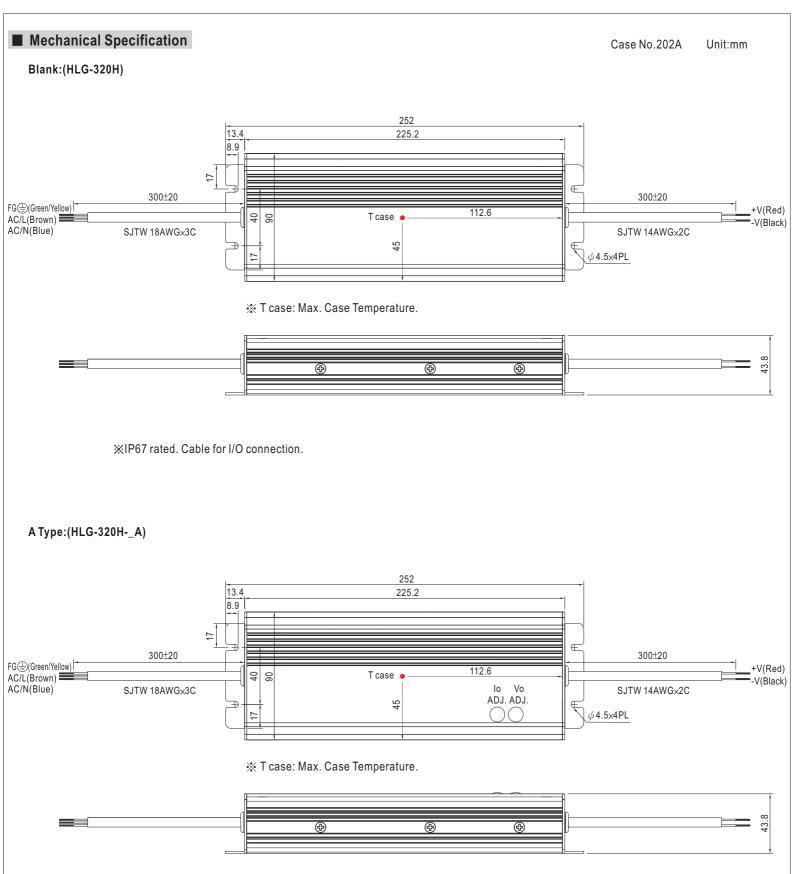
- A: IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
- $B: IP67\ rated.\ Constant\ current\ level\ adjustable\ through\ output\ cable\ with\ 1\sim10Vdc\ or\ PWM\ signal\ or\ resistance.$
- C: Terminal block for I/O connection. Output voltage and constant current level can be adjusted through internal
- D (option): IP67 rated. Timer dimming function, contact MEAN WELL for details.

#### **SPECIFICATION**

	-												
MODEL		HLG-320H-12	HLG-320H-15	HLG-320H-20	HLG-320H-24	HLG-320H-30	HLG-320H-36	HLG-320H-42	HLG-320H-48	HLG-320H-54			
	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V			
	CONSTANT CURRENT REGION Note.4	6 ~12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V			
	RATED CURRENT	22A	19A	15A	13.34A	10.7A	8.9A	7.65A	6.7A	5.95A			
	RATED POWER	264W	285W	300W	320.16W	321W	320.4W	321.3W	321.6W	321.3W			
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p			
	VOLTAGE ADJ. RANGE Note.6	10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	21 ~ 26V	26 ~ 32V	32 ~ 39V	38 ~ 45V	43 ~ 52V	49 ~ 58V			
OUTPUT		Can be adjusted by internal potentiometer or through output cable											
	CURRENT ADJ. RANGE	11 ~ 22A	9.5 ~ 19A	7.5 ~ 15A	6.67 ~ 13.34A	5.35 ~ 10.7A	4.45 ~ 8.9A	3.8 ~ 7.65A	3.35 ~ 6.7A	2.97 ~ 5.95A			
	VOLTAGE TOLERANCE Note.3	±3.0%	±2.0%	±1.5%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%			
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	SETUP, RISE TIME Note.8	2500ms, 80ms	2500ms, 80ms at full load 230VAC /115VAC										
	HOLD UP TIME (Typ.)	15ms at full lo	ad 230VAC	/115VAC									
	VOLTAGE RANGE Note.5	90 ~ 305VAC	127 ~ 431	1VDC									
	FREQUENCY RANGE	47 ~ 63Hz											
	POWER FACTOR (Typ.)	PF>0.98/115V	/AC, PF>0.95/2	230VAC, PF>0	.94/277VAC at	full load (Pleas	se refer to "Pow	er Factor Char	acteristic" curv	re)			
	EFFICIENCY (Typ.) (230Vac)	91%	92.5%	93.5%	94%	94%	94.5%	95%	95%	95%			
INPUT	EFFICIENCY (Typ.) (277Vac)	91.5%	93%	94%	94.5%	94.5%	95%	95%	95%	95%			
	AC CURRENT (Typ.)	3.5A / 115VA	1.65A/	230VAC	1.45A / 277VAC	;							
	INRUSH CURRENT(Typ.)	COLD START	75A/230VAC										
	LEAKAGE CURRENT	<0.75mA / 27	7VAC										
		95 ~ 108%											
	OVER CURRENT Note.4		e : Constant ci	urrent limiting.	recovers auton	natically after fa	ault condition is	s removed					
	SHORT CIRCUIT			ecovers automatically after fault condition is removed.									
PROTECTION		14 ~ 17V	17.5 ~ 21V	22.5 ~ 27V	27 ~ 33V	33 ~ 37V	40 ~ 46V	46.5 ~ 53V	53.5 ~ 60V	59 ~ 65V			
	OVER VOLTAGE	Protection typ	e : Shut down	and latch off o	p voltage, re-p	ower on to reco	over						
		Protection type : Shut down and latch off o/p voltage, re-power on to recover  100°C ±10°C (RTH2)											
	OVER TEMPERATURE	Protection type: Shut down and latch off o/p voltage, re-power on to recover											
	WORKING TEMP.	-40 ~ +70°C (	Refer to "Derat	tina Curve")									
	WORKING HUMIDITY	- (	non-condensir	,									
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80°C,	10 ~ 95% RH										
	TEMP. COEFFICIENT	±0.03%/°C (0											
	VIBRATION	10 ~ 500Hz. 5	G 12min./1cvc	le, period for 7	72min. each ald	ng X. Y. Z axe	S						
						•	ent (except for	HLG-320H C ty	pe),IP65 or IP	67, J61347-1,			
	SAFETY STANDARDS Note.7				60950-1, TUV I		(		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , , ,			
	WITHSTAND VOLTAGE				P-FG:0.5KVA								
SAFETY &	ISOLATION RESISTANCE				0VDC / 25°C/								
EMC	EMC EMISSION	,					lass C (≧50%	load) : EN610	00-3-3				
	EMC IMMUNITY	'		,			ustry level (sur						
	MTBF	157.1Khrs mi		K-217F (25°€)	, 2110	,g	, (oui;	, ,					
OTHERS	DIMENSION	252*90*43.8n		(== 0)									
	PACKING		16Kg/0.83CUF	T									
NOTE	All parameters NOT special	0. 1			ut, rated load	and 25°C of a	mbient tempera	ature.					
NOTE	Ripple & noise are measure     Taleranae Lineludes est up	ed at 20MHz of	f bandwidth by	using a 12" to	wisted pair-wire				pacitor.				

- 3. Tolerance: includes set up tolerance, line regulation and load regulation.
- 4. Constant current operation region is within 50% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.
- 5. Derating may be needed under low input voltages. Please check the static characteristics for more details.
- Type A and type C only.
   Safety and EMC design refer to EN60598-1, subject CNS15233, GB7000.1, FCC part18.
- 8. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
- 9. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
- 10. Refer to warranty statement.



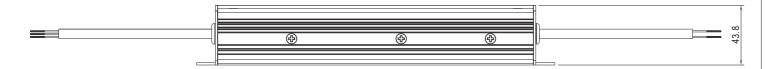




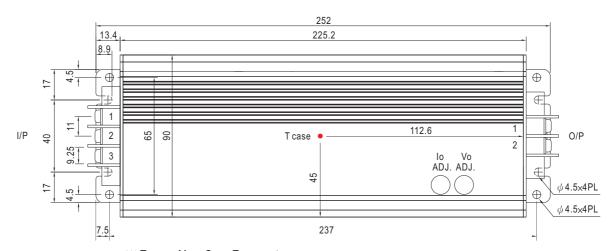
## B Type:(HLG-320H-\_B)



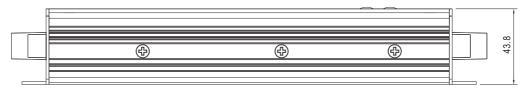
🔆 T case: Max. Case Temperature.



## C Type:(HLG-320H-\_C)



T case: Max. Case Temperature.



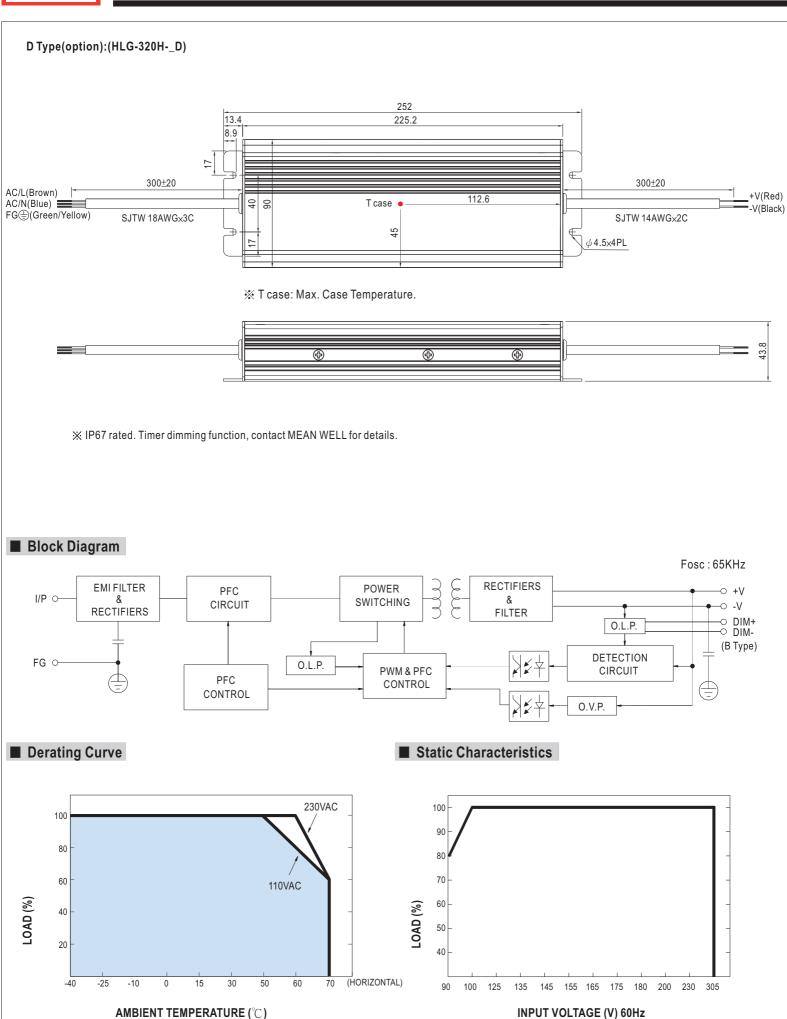
X Output voltage and constant current level can be adjusted through internal potentiometer. (Can access by removing the rubber stopper on the case.)

## AC Input Terminal Pin No. Assignment

-	
Pin No.	Assignment
1	FG ±
2	AC/L
3	AC/N

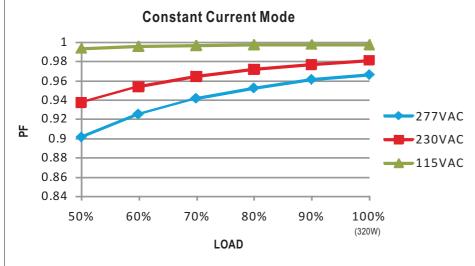
DC Output Terminal Pin No. Assignment

Pin No.	Assignment
1	+V
2	-V



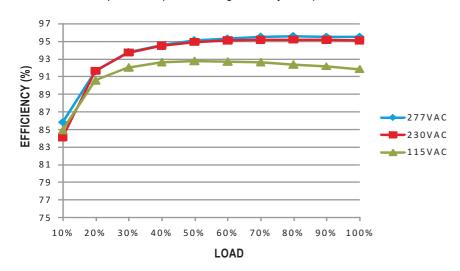


## ■ Power Factor Characteristic



## **■** EFFICIENCY vs LOAD (48V Model)

HLG-320H series possess superior working efficiency that up to 95% can be reached in field applications.

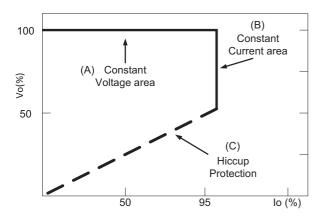


## ■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

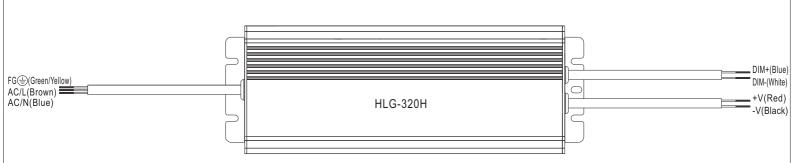
Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve



## **■** DIMMING OPERATION



- ※ Please DO NOT connect "DIM-" to "-V".
- X Reference resistance value for output current adjustment (Typical)

Resistance	Single driver	<b>10K</b> Ω	<b>20K</b> Ω	<b>30K</b> Ω	<b>40K</b> Ω	<b>50K</b> Ω	<b>60K</b> Ω	<b>70K</b> Ω	<b>80K</b> Ω	<b>90K</b> Ω	<b>100K</b> Ω	OPEN
value	Multiple drivers (N=driver quantity for synchronized dimming operation)	10KΩ/N	20K Ω/N	30KΩ/N	40KΩ/N	50K Ω/N	60KΩ/N	70KΩ/N	80K Ω/N	90KΩ/N	100K Ω/N	
Percentage	e of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	98%~108%

## × 1 ~ 10V dimming function for output current adjustment (Typical)

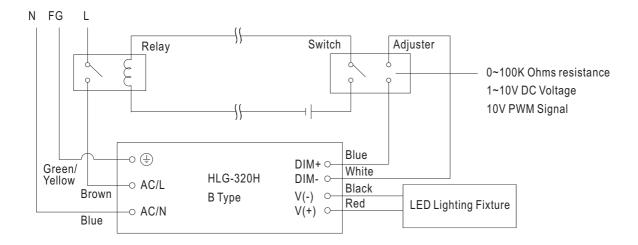
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	98%~108%

#### \* 10V PWM signal for output current adjustment (Typical): Frequency range: 100HZ ~ 3KHz

· · · · · · · · · · · · · · · · · · ·		,	( ) 1 /		, ,						
Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	98%~108%

- XUsing the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.
- \*\*Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture ON/OFF:



Using a switch and relay can turn ON/OFF the lighting fixture.

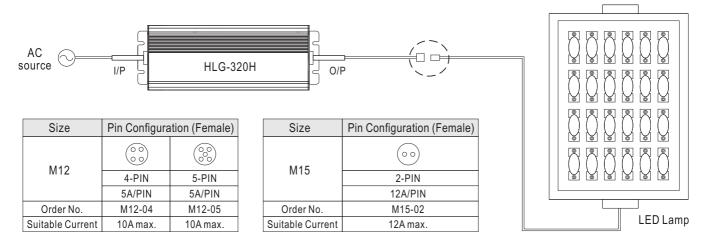
- 1.Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
- 2. The LED lighting fixture can be turned ON/OFF by the switch.



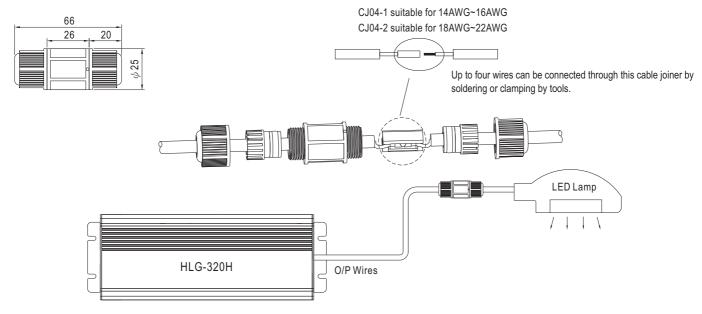
## ■ WATERPROOF CONNECTION

## Waterproof connector

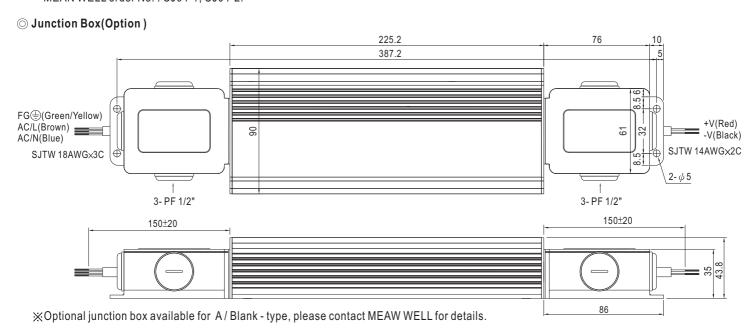
Waterproof connector can be assembled on the output cable of HLG-320H to operate in dry/wet/damp or outdoor environment.



#### O Cable Joiner



\*\*CJ04 cable joiner can be purchased independently for user's own assembly. MEAN WELL order No. : CJ04-1, CJ04-2.









#### ■ Features :

- Constant current design
- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 91%
- Protections: Short circuit / Over voltage / Over temperature
- Cooling by free air convection
- · Output current adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- Three in one dimming function (1~10Vdc or 10V PWM signal or resistance)
- Suitable for dry / damp / wet locations
- 5 years warranty (Note.5)

















HLG-60H-C350A A: IP65 rated. Constant current level can be adjusted through internal potentiometer.

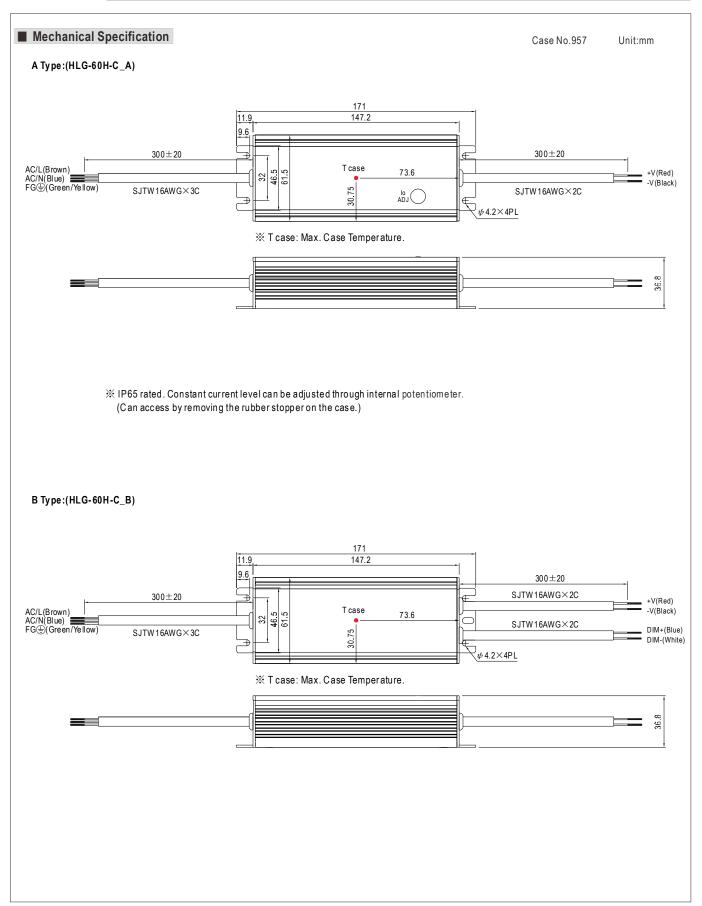
B: IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.

D (option): IP67 rated. Timer dimming function, contact MEAN WELL for details.

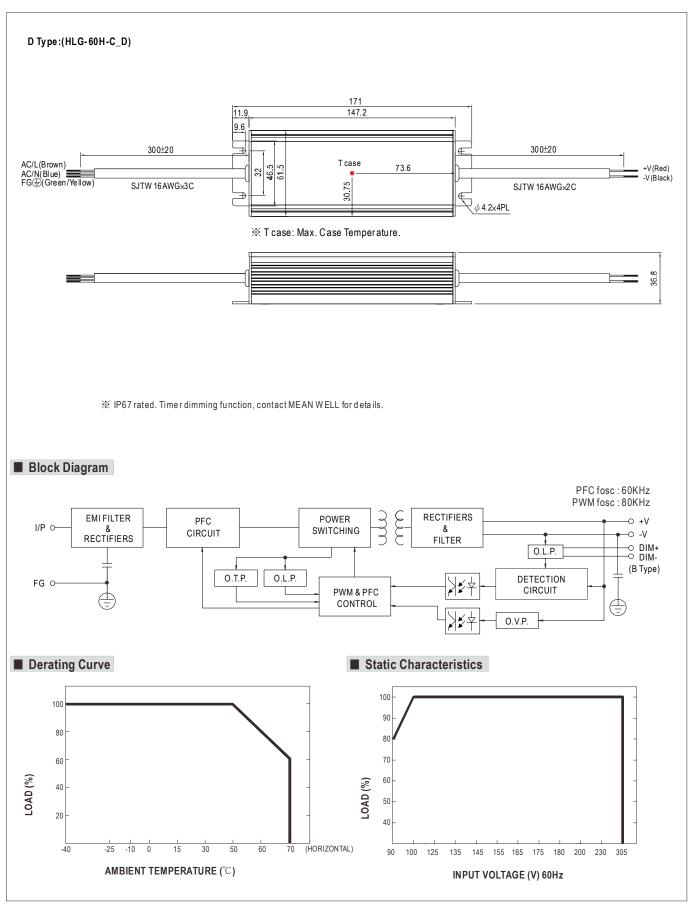
## **SPECIFICATION**

MODEL	-	UII O 00U 0050	III 0 00II 0700								
MODEL		HLG-60H-C350	HLG-60H-C700								
		350mA	700mA								
		±5.0%									
	CURRENT ADJ. RANGE  LINE REGULATION SETUP, RISE TIME HOLD UP TIME (Typ.)  VOLTAGE RANGE POWER FACTOR (Typ.) TOTAL HARMONIC DISTORTIC EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (Typ.) LEAKAGE CURRENT SHORT CIRCUIT  OVER VOLTAGE OVER TEMPERATURE WORKING HUMIDITY STORAGE TEMP., HUMIDIT TEMP. COEFFICIENT VIBRATION SAFETY STANDARDS NOT WITHSTAND VOLTAGE ISOLATION RESISTANCE EMC EMISSION EMC IMMUNITY MTBF DIMENSION PACKING 1. All parameters NOT spe 2. Derating may be needed 3. Safety and EMC design 4. The power supply is concomplete installation, the 5. Refer to warranty statem 6. Please refer to "DRIVING 7. Ripple & noise are meas		50 ~ 100V								
		70W	70W								
	RIPPLE CURRENT	±5%									
OUTPUT	RIPPLE & NOISE Note.7	1Vp-p	0.5Vp-p								
	CURRENT ADJ. RANGE	Can be adjusted by internal potentiometer A type only									
	OUTCLE TO THE TOTAL TOTAL TO THE TOTAL TO TH	210 ~ 350mA	420 ~ 700mA								
	LINE REGULATION	±1%	±1%								
	SETUP, RISE TIME	750ms, 80ms / 115VAC at full load 500ms, 80ms / 230VAC at 1	full load								
	HOLD UP TIME (Typ.)	16ms at full load 230VAC / 115VAC									
	VOLTAGE RANGE Note.2	90 ~ 305VAC 127VDC ~ 431VDC									
	FREQUENCY RANGE	7 ~ 63Hz									
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.96/230VAC, PF>0.94/277VAC at full lo	ad (Please refer to "Power Factor Characteristic" curve)								
INDIIT	TOTAL HARMONIC DISTORTION	THD<20% when output loading≧60% at 115VAC/230VAC in	put and output loading≧75% at 277VAC input								
INFUI	EFFICIENCY (Typ.)	91%	90.5%								
	AC CURRENT (Typ.)	0.69A / 115VAC 0.35A / 230VAC 0.29A / 277VAC									
	INRUSH CURRENT (Typ.)	COLD START 60A(twidth=275µs measured at 50% lpeak) at 230VAC									
	LEAKAGE CURRENT	<0.75mA / 277VAC									
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is rem	oved								
PROTECTION		230 ~ 250V	120 ~ 140 V								
INPUT  INPUT  E  PROTECTION  C  ENVIRONMENT  I  V  S  SAFETY & II  EMC  E  F  F  F  F  F  F  F  F  F  F  F  F	OVER VOLIAGE	Protection type: Shut down o/p voltage with auto-recovery or re-power on to recovery									
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover									
	WORKING TEMP.	-40 ~ +70°C (Refer to "Derating Curve")									
	WORKING HUMIDITY	10 ~ 95% RH non-condensing									
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH									
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)									
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X,	Y, Z axes								
	SAFETY STANDARDS Note.3	UL8750, CSA C22.2 No. 250.0-08, EN61347-1, EN61347-2-13 i	ndependent, IP65 or IP67 approved								
0.45557/.0	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC									
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% R	H								
EMC	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (≥60% load);	EN61000-3-3								
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, heavy indu	stry level (surge L,N-FG: 4KV), criteria A								
	MTBF	338K hrs min. MIL-HDBK-217F (25°C)									
OTHERS	DIMENSION	171*61.5*36.8 mm (L*W*H)									
	PACKING	0.73Kg; 20pcs/15.6Kg/0.9CUFT									
NOTE	Derating may be needed ur     Safety and EMC design ref     The power supply is consid complete installation, the fir     Refer to warranty statemen     Please refer to "DRIVING N     Ripple & noise are measure	ally mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.  Inder low input voltages. Please check the static characteristics for more details.  If the static characteristics for more details.									



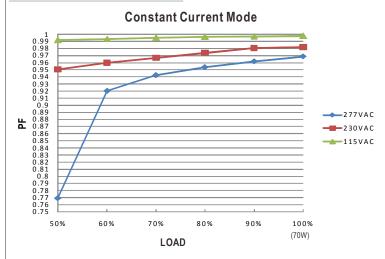






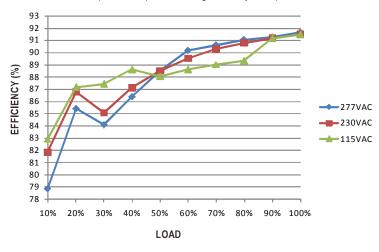


## ■ Power Factor Characteristic



## ■ EFFICIENCY vs LOAD (HLG-60H-C700A Model)

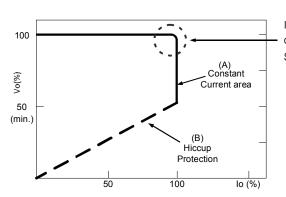
HLG-60H-C series possess superior working efficiency that up to 91% can be reached in field applications.



## ■ DRIVING METHODS OF LED MODULE

A typical LED power supply may work in "constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CC characteristic can be operated at CC mode (direct drive, at area (A)).



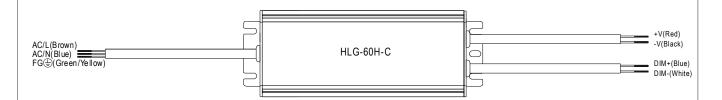
Typical LED power supply I-V curve

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.



## ■ DIMMING OPERATION (for B-type only)



- ※ Please DO NOT connect "DIM-" to "-V".
- \* Reference resistance value for output current adjustment (Typical)

Resistance	Single driver	10K Ω	<b>20K</b> Ω	<b>30K</b> Ω	<b>40K</b> Ω	50K Ω	60K Ω	<b>70K</b> Ω	80K Ω	90K Ω	100 K $\Omega$	OPEN
value	Multiple drivers (N=driver quantity for synchronized dimming operation)	10KΩ/N	20K Ω /N	30K Ω /N	40K Ω <i>I</i> N	50K Ω /N	60K Ω /N	70K Ω /N	80K Ω /N	90K Ω /N	100KΩ/N	
Percentage	e of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ 1 ~ 10V dimming function for output current adjustment (Typical)

Dimming value	1V	2V	3V	4V	5V	6V	7 V	8V	9V	10 V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

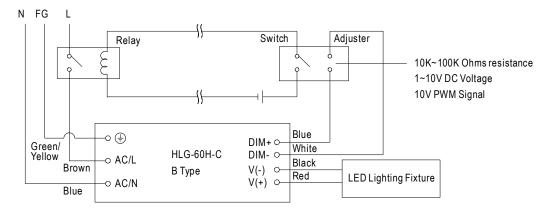
\* 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz

Dutyvalue	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

\*\*Using the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.

\*Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture  ${\tt ON/OFF}$  :



Using a switch and relay can turn ON/OFF the lighting fixture.

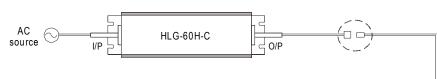
- 1.Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
- 2. The LED lighting fixture can be turned ON/OFF by the switch.



## ■ WATERPROOF CONNECTION

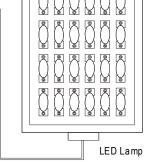
## O Waterproof connector

 $Waterproof connector can be assembled on the output cable of HLG-60 H-C \ to \ operate in \ dry/wet/damp \ or \ outdoor \ environment.$ 

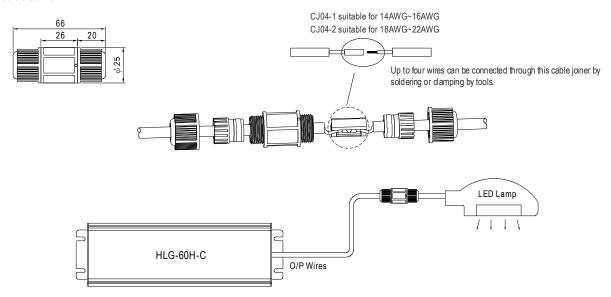


Size	Pin Configura	ation (Female)			
M12	00	000			
IVIIZ	4-PIN	5-PIN			
	5A/PIN	5A/PIN			
Order No.	M12-04	M12-05			
Suitable Current	10A max.	10A max.			

Size	Pin Configuration (Female)
M15	00
IVITO	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.



#### O Cable Joiner



MEAN WELL order No.: CJ 04-1, CJ 04-2.









## Features

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- No load power consumption <0.5W at remote OFF</li>
- High efficiency up to 96%
- -40°C ~ +70°C wide operating range
- Protections: Short circuit / Over current / Over voltage / Over temperature
- · Fanless design, cooling by free air convection
- IP67 / IP65 design for indoor or outdoor installations
- Withstand 5G vibration test
- Three in one dimming function (0~10Vdc or PWM signal or resistance)
- LED indicator for power on (A-Type)
- Suitable for dry / damp / wet location
- 5 years warranty (Note.10)

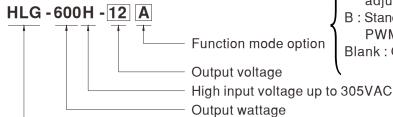
## Applications

- · LED street lighting
- LED high-bay lighting
- · Parking space lighting
- LED searchlight
- LED fishing lamp

## Description

HLG-600H series is a high performance dustproof and waterproof AC-to-DC LED power supply up to 600W. The fully-potted silicone and the aluminum case facilitate the heat dissipation. Above all, it delivers the efficiency up to 96% that tops the LED power supply field. Other features include the wide working temperature range between -40 $^{\circ}$ C and +70 $^{\circ}$ C, the fan-less design, the adjustable output voltage and current, the surge susceptibility up to 4KV (EN61000-4-5), low no-load power consumption (<0.5W) at remote OFF and workable for 277VAC input. These attributes all make HLG-600H the fit for the indoor/outdoor LED lighting application requiring remarkable reliability.





Series name

- A: Standard model, IP65, Vo and Io level can be adjusted through internal potentiometer.
- B: Standard model, IP67, Io adjustable with 0~10Vdc, PWM signal or resistance.

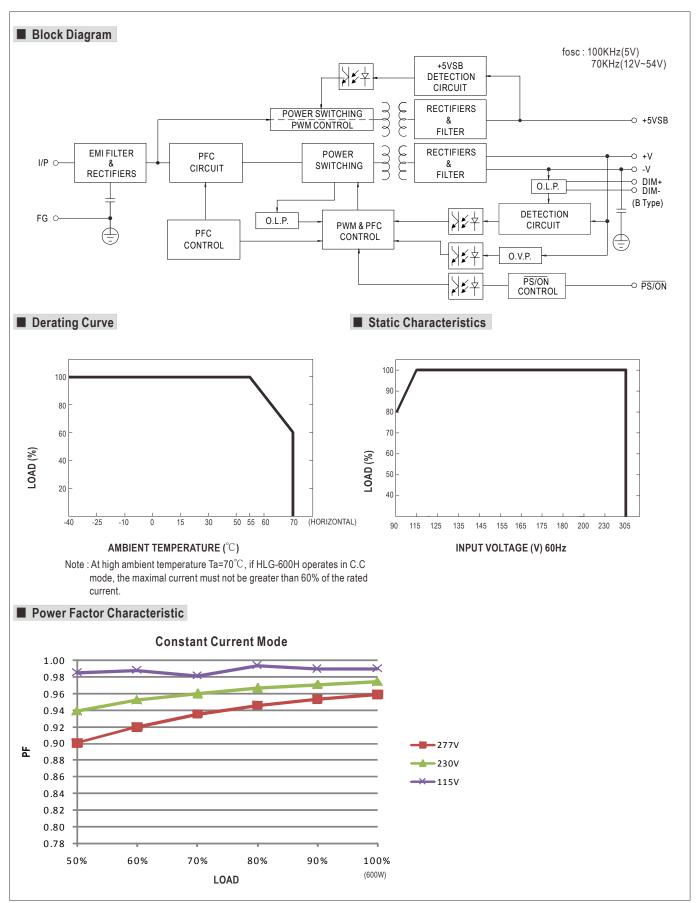
Blank: Optional model, IP67, with fixed Vo and Io



## **SPECIFICATION**

MODEL			HL G-600H-12	HL G-600H-15	HLG-600H-20	HLG-600H-24	HLG-600H-30	HLG-600H-36	HLG-600H-42	HLG-600H-48	HLG-600H-54			
	DC VOLTAGE						30V	36V						
		DECION Note 4		-			15 ~ 30V	18 ~ 36V		-	27 ~ 54V			
							20A	16.7A						
DC VOLTAGE   12V		600W	601.2W			604.8W								
		may \ Nata 2					200mVp-p	250mVp-p	42V	350mVp-p				
											45.9 ~ 56.7V			
OUTDUT	VOLIAGE ADJ. K	ANGE Note.b					25.5 ~ 51.50	30.0 ~ 37.00	33.7 ~ 44.1 V	40.0 ~ 30.4 V	45.9 ~ 50.7 V			
DC VOI   CONSTA     RATED     RATED     RATED     VOLTA     LINE R     LOAD     SETUP     HOLD     FREQU     POWER     TOTAL     INPUT     EFFICI     (Typ.)     AC CUI     INRUSI     LEAKA     OVER     OVER	CURRENT ADJ. R	ANGE				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	10 ~ 204	9 2 - 16 7A	71 - 1/ 2/	62 - 12 51	5.6 -: 11.2A			
	VOLTAGE TOLER	ANCE Note 2							-					
	-					0								
	-													
				127 ~ 43	IVDC									
				-	-		,				'e)			
											000/			
INPUT	:													
							2201/40							
				,	Uµs measured a	at 50% lpeak) at	230VAC							
	LEAKAGE CURRE	=N I		/ VAC										
	OVER CURRENT	Note.4												
									s removed					
PROTECTION	SHORT CIRCUIT									F0 001/				
	OVER VOLTAGE						1	39.5 ~ 43.5V	46 ~ 50V	48V	59 ~ 63V			
			• • • • • • • • • • • • • • • • • • • •			•	cover			24 ~ 48V 27				
	VOLTAGE TOLERANCE Notes.   23-40A   18-36A   14-28A   12-28A   10-20A   8.3-16.7   7.1-14.3A   6.2-12.5A   5.6-11.2A													
FUNCTION	Note: 4  Protection type: Constant current limiting, recovers automatically after fault condition is removed  Constant current limiting, recovers automatically after fault condition is removed  13 ~ 16V   16.5 ~ 20.5V   22 ~ 26V   26 ~ 30V   32.5 ~ 36.5V   39.5 ~ 43.5V   46 ~ 50V   52.5 ~ 56.5V   59 ~ 63V  Protection type: Shut down o/p voltage, re-power on to recover  OVER TEMPERATURE   Shut down o/p voltage, re-power on to recover  REMOTE ON/OFF CONTROL   Power on: "Hi" >2 ~ 5V or Open circuit   Power off: "Low" <0 ~ 0.5V or Short circuit    5VS TANDBY   5VSB: 5V@0.5A; tolerance ±5%, ripple: 100mVp-p(max.)													
						JmVp-p(max.)								
			,		,									
					ng .									
ENVIRONMENT														
		:NI	,											
	VIBRATION		-				•							
	SAFETY STANDA	RDS Note.7				3-12, ENEC E	N61347-1, EN6	1347-2-13 ind	ependent, EN6	2384, IP65 or I	P67,			
				• • • • • • • • • • • • • • • • • • • •										
EMC		STANCE												
			•			,		,	, .					
						EN61547, EN5	5024, light indu	ıstry level (sur	ge 4KV), criter	ia A				
					(-217F (25°C)									
OTHERS				, ,	_									
		NOT :	0, 1				1.05°C .							
NOTE	<ol> <li>Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>Tolerance: includes set up tolerance, line regulation and load regulation.</li> <li>Constant current operation region is within 50%~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.</li> <li>Derating may be needed under low input voltages. Please check the static characteristics for more details.</li> </ol>													

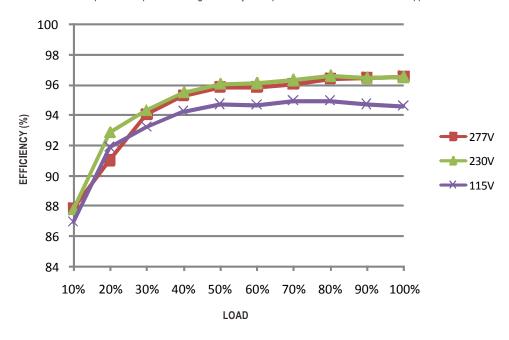






## ■ EFFICIENCY vs LOAD (54V Model)

HLG-600H series possess superior working efficiency that up to 96% can be reached in field applications.

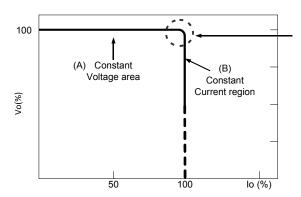


## ■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (C.V) or constant current mode (C.C)" to drive the LEDs.

Mean Well's LED power supply with C.V+ C.C characteristic can be operated at both C.V mode (with LED driver, at area (A) and C.C mode (direct drive, at area (B).



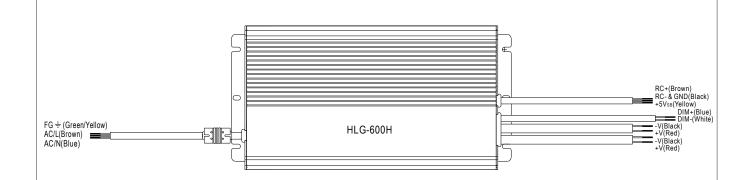
Typical LED power supply I-V curve

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.



## ■ DIMMING OPERATION (for B Type only)



- Built-in 3 in 1 dimming function, IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 0 ~ 10V dc or 10V PWM signal between DIM+ and DIM-.
- ※ Please DO NOT connect "DIM-" to "-V".
- ※ Reference resistance value for output current adjustment (Typical)

Resistance value	ctanca	Single driver	Short	10K $\Omega$	$20$ K $\Omega$	$30$ K $\Omega$	$40 \mathrm{K}\Omega$	50K $\Omega$	$60$ K $\Omega$	<b>70K</b> Ω	80KΩ	90KΩ	$100 \text{K}\Omega$	OPEN
	Multiple drivers (N=driver quantity for synchronized dimming operation)	Short	10K Ω /N	20K Ω /N	30K Ω/N	40K Ω/N	50K Ω /N	60K Ω /N	70K Ω /N	80K Ω/N	90K Ω/N	100K Ω/N		
Perc	centage	e of rated current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

## 3% 0 ~ 10V dimming function for output current adjustment (Typical)

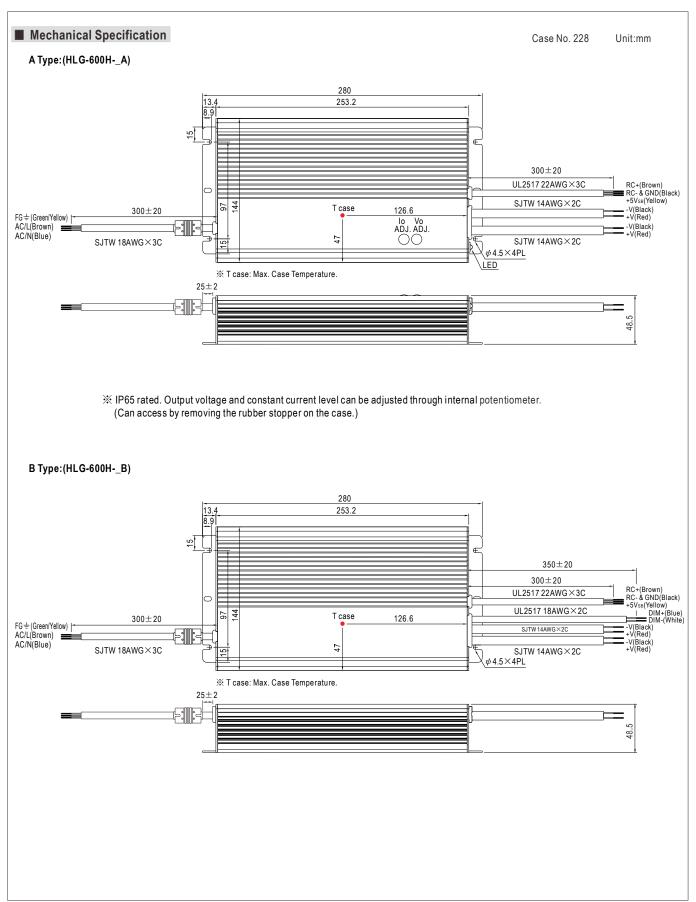
Dimming value	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

## ¾ 10V PWM signal for output current adjustment (Typical): Frequency range: 100Hz ~ 3KHz

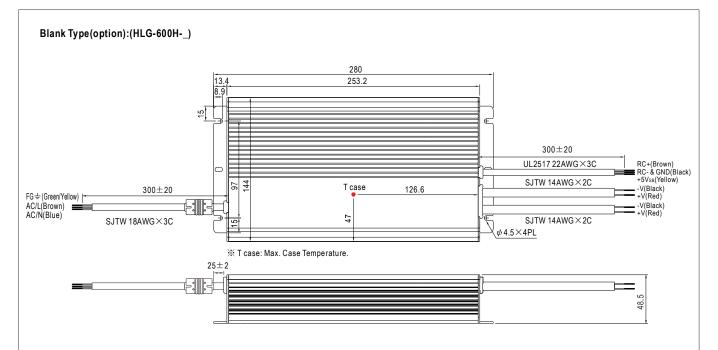
Duty value	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

% Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.









## **■** Installation Manual

Please refer to: http://www.meanwell.com/webnet/search/InstallationSearch.html